09/508704
AU 17

WEST Search History

DATE: Monday, March 10, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L8	l1 with l6 with L7	972	L8
L7	virus or viral or virally or viruses	126869	L7
L6	coat protein	5429	L6
L5	comovir$	93	L5
L4	comovirus	92	L4
L3	cpmv or (cow pea mosaic virus)	40	L3
L2	comovir?	0	L2
L1	plant	531187	L1

END OF SEARCH HISTORY

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Select?	Document ID	Section(s)	Page(s)	# Pages to print	Database
☑	5824856	all	all	25	USPT,PGPB,JPAB,EPAB,DWPI
☑	5173410	all	all	19	USPT,PGPB,JPAB,EPAB,DWPI
☑	5304730	all	all	33	USPT,PGPB,JPAB,EPAB,DWPI
☑	JP363014693A	all	all	N/A	USPT,PGPB,JPAB,EPAB,DWPI
☑	JP402049591A	all	all	N/A	USPT,PGPB,JPAB,EPAB,DWPI
☑	WO8904868A	all	all	N/A	USPT,PGPB,JPAB,EPAB,DWPI
☑	JP401120290A	all	all	N/A	USPT,PGPB,JPAB,EPAB,DWPI

Building cm1 **Room** 11e14 **Printer** gbldptr

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Search Results - Record(s) 951 through 972 of 972 returned.

951. ZA 9104563 A . Protecting plants against cucumber mosaic virus infection - relates to e.g. isolated coat protein of virus strain and isolated DNA. COLLAD, D D A, et al. A01H000/00 A01N000/00 C12N000/00.

952. AU 9171951 A US 5824856 A CA 2037677 A JP 04121200 A AU 636717 B . Prodn. of exogenous gene or its prod. in plant cells - comprises using cDNA of RNA replicase and recombinant virus genomic RNA contg. exogenous gene. FURUSAWA, I, et al. A01H001/00 A01H004/00 A01H005/00 C12N005/00 C12N005/14 C12N015/00 C12N015/10 C12N015/33 C12N015/40 C12N015/52 C12N015/82 C12P021/00 C12P021/00 C12R001:91.

953. WO 9117254 A IL 98031 A AU 9178655 A US 5143905 A CN 1059760 A US 5306628 A . Extending host range or toxicity of insecticidal proteins - using protein capable of binding to gut epithelium of insects. FEDERICI, B A, et al. A01N063/00 A61K037/00 A61K039/07 A61K039/12 C07K003/08 C07K013/00 C07K019/00 C12N001/21 C12N015/00 C12N015/09 C12N015/31 C12N015/62 C12N015/63 C12P021/00 C12P021/02.

954. WO 9108296 A DE 69014100 E EP 460217 A EP 460217 A4 EP 460217 B1 JP 04144685 A . DNA obtd. by cleavage of cDNA corresp. to RNA - of Odontoglossum ring spot virus coding for viral coat protein and is useful as probe and vector for plant gene recombination. CHATANI, M, et al. C07K013/00 C07K015/04 C12N001/21 C12N005/10 C12N015/40 C12N015/82 C12P021/02 C12Q001/68 C12R001/19 C12P021/02 C12R001:19.

955. CA 2026703 C EP 425004 A NL 8902452 A NL 9001711 A CA 2026703 A PT 95494 A JP 03280883 A EP 425004 B1 DE 69028479 E ES 2094744 T3 IE 76133 B US 6093554 A US 6197542 B1 CA 2396794 A1 . Recombinant DNA comprising RNA virus derived sequences - used for protecting organisms, esp. plants from virus infection or for producing protein or RNA. AMELOOT, P, et al. A01H001/04 A01H005/00 C07G017/00 C12N001/00 C12N001/21 C12N005/00 C12N005/02 C12N005/04 C12N005/10 C12N015/00 C12N015/09 C12N015/11 C12N015/40 C12N015/79 C12N015/82 C12P019/34 C12P021/00 C12P021/04 C12P021/06.

956. WO 9104332 A US 5677157 A AU 9062840 A EP 491733 A1 JP 05500308 W EP 491733 B1 DE 69014644 E ES 2065545 T3 . Regeneration and transformation of squash plants - by transfer and integration of genetic materials into genome of squash plants. CHEE, P P. A01H001/04 A01H004/00 A01H005/00 C12N005/04 C12N015/82.

957. US 4970168 A . Virus-resistant plants - obtd. by transforming plants with DNA which encodes coat proteins of Potato Viruses-X and Y. TUMER, N E. C12N001/00 C12N005/00 C12N015/00.

958. JP 02109992 A . Prodn. of useful proteins - using genes of proteins specific to infection. C12N005/14 C12N015/63 C12P021/00 C12R001/91.

959. WO 9002185 A AU 634171 B AU 8940478 A CA 1335965 C CN 1040823 A DE 68909797 E DK 9100223 A EP 429497 A EP 429497 B1 JP 04500154 W US 5349128 A . Coat protein gene of cucumber mosaic virus strain WL - cloned to produce transformed plants which are resistant to CMV viral

infection. GONSALVES, D, et al. A01H001/00 A01H001/04 A01H004/00 A01H005/00 A01N063/00 C07H021/04 C12N001/21 C12N005/00 C12N005/10 C12N005/14 C12N015/00 C12N015/40 C12N015/82.

☐ 960. WO 9002184 A DE 68928445 E AU 8939870 A CN 1044126 A EP 429478 A EP 429483 A JP 04500151 W JP 04500152 W AU 634168 B EP 429478 B1 CA 1329561 C EP 693555 A1 EP 699757 A1 EP 429483 B1 . Potyvirus coat protein genes - used to produce transformed plants resistant to viral infection by potyvirus and related viruses. GONSALVES, D, et al. A01H004/00 A01H005/00 A01N063/00 C07K014/08 C12N005/10 C12N005/14 C12N015/40 C12N015/82.

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☐ 962. WO 8912100 A AU 8939641 A EP 444040 A FR 2631973 A . Transgenic plants resistant to potyviruses - and complete genome RNA sequence of potato virus Y. MASSON, J, et al. C12N015/00.

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☑ 965. JP 01120290 A . Plant virus RNA vector - obtd. by substituting foreign gene for coat protein gene region and 30K protein gene region of tobacco mosaic virus RNA. C12N015/00 C12R001/91.

☐ 966. EP 279433 A DE 3865694 G EP 279433 B ES 2026581 T3 JP 01027476 A . DNA coding for the coat protein of cucumber mosaic virus strain Y - used for producing plants resistant to cucumber mosaic virus infection. FURUSAWA, I, et al. A01H005/00 C12N001/20 C12N005/00 C12N015/40 C12N015/82.

☐ 967. EP 278667 A US 5804439 A AU 8811383 A JP 63301787 A EP 278667 B1 DE 3850683 G ES 2060646 T3 CA 1337933 C US 5602242 A US 5627060 A . Hybrid RNA viral sequence esp. for infecting plants - comprising an infectious viral sequence and a heterologous origin of assembly and coat protein gene. AHLQUIST, P G, et al. A01H001/00 A01H005/00 C07G017/00 C07H021/02 C12N005/10 C12N007/00 C12N007/01 C12N015/00 C12N015/33 C12N015/40 C12N015/79 C12N015/82 C12N015/83.

☑ 968. JP 63014693 A . Plant virus RNA vector - prepd. by substituting coat protein gene with tobamo-virus RNA for an adventitious gene. C12N005/00 C12N007/00 C12N015/00.

☐ 969. WO 8707644 A US 5891665 A AU 8774896 A EP 270611 A GB 2199328 A JP 01500961 W GB 2199328 B EP 270611 B1 DE 3750422 G US 5489527 A US 5612193 A JP 10146197 A JP 2814433 B2 . Enhancing translation of mRNA by attaching leader sequence - from RNA virus, opt. in form of complementary DNA-, e.g. for improving protein expression in transformed cells. WILSON, T M, et al.

A01H001/00 C07H021/02 C07K014/08 C12N001/20 C12N001/21 C12N005/00 C12N005/10 C12N015/00 C12N015/09 C12N015/11 C12N015/67 C12N015/70 C12N015/82 C12N015/85 C12P021/00 C12P021/02 C12P021/04 C12P021/06 C12R001/91 C12N015/09 C12R001:91 C12P021/02 C12R001:19 C12N015/09 C12R001:91.

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971. EP 223452 A JP 3281512 B2 AU 8664528 A ZA 8608242 A JP 62201527 A DK 8605151 A JP 06339379 A EP 223452 B1 JP 08051986 A DE 3650507 G ES 2087055 T3 IL 80433 A JP 2000041512 A IE 81098 B JP 2000157288 A . Prodn. of plants resistant to viral infection - by using recombinant DNA molecule to give genetically transformed plants. BEACHY, R N, et al. A01H001/00 A01H005/00 A01N065/00 C07H021/00 C12N001/20 C12N001/21 C12N001/22 C12N005/00 C12N005/10 C12N005/14 C12N015/00 C12N015/09 C12N015/11 C12N015/33 C12N015/63 C12N015/82 C12N015/83 C12R001:01 C12N005/10 C12R001:91 C12N001/21 C12R001:01 C12N001/20 C12R001:01 C12N001/21 C12R001:01.

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972. EP 221044 A AU 8664380 A JP 62175187 A ZA 8608126 A EP 221044 B1 DE 3686633 G . New plant plasmid - comprising heterologous DNA sequence and a segment of a coat protein-encoding gemini:virus DNA which permits autonomous replication. BISARO, D M, et al. A01H001/00 A01H005/00 C07G017/00 C12N005/00 C12N015/00 C12N015/83 C12P021/00.

Generate Collection Print

Terms	Documents
l1 with l6 with L7	972

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09/580,704

```
   Set  Items  Description
   ---  -----  -----------
? s plant or plants

     667272  PLANT
    2159080  PLANTS
   S1 2387728  PLANT OR PLANTS
? s virus? or viral?

    1302614  VIRUS?
     530308  VIRAL?
   S2 1415137  VIRUS? OR VIRAL?
? s display?

   S3 352757  DISPLAY?
? s insert?

   S4 265542  INSERT?
? s s1 and s2 and s3

     2387728  S1
     1415137  S2
      352757  S3
   S5   1024  S1 AND S2 AND S3
? s s1 and s2 and s4

<------User Break------>
u!
? s s1 and s2 and s4

     2387728  S1
     1415137  S2
      265542  S4
   S6   1850  S1 AND S2 AND S4
? s s5 or s6

       1024  S5
       1850  S6
   S7   2824  S5 OR S6
? s peptide

   S8 588859  PEPTIDE
? s foreign

   S9  91606  FOREIGN
? s s1 and s2 and s3 and s8

     2387728  S1
     1415137  S2
      352757  S3
      588859  S8
  S10     79  S1 AND S2 AND S3 AND S8
? s s1 and s2 and s3 and s9

     2387728  S1
     1415137  S2
      352757  S3
       91606  S9
  S11     16  S1 AND S2 AND S3 AND S9
? s s1 and s2 and s4 and s8

     2387728  S1
     1415137  S2
      265542  S4
      588859  S8
  S12    130  S1 AND S2 AND S4 AND S8
? s s1 and s2 and s4 and s0

>>>"S0" does not exist
     2387728  S1
     1415137  S2
      265542  S4
           0  S0
  S13      0  S1 AND S2 AND S4 AND S0
? s s1 and s2 and s4 and s9

     2387728  S1
     1415137  S2
      265542  S4
       91606  S9
  S14    197  S1 AND S2 AND S4 AND S9
? ds


Set    Items  Description
S1   2387728  PLANT OR PLANTS
S2   1415137  VIRUS? OR VIRAL?
S3    352757  DISPLAY?
S4    265542  INSERT?
S5      1024  S1 AND S2 AND S3
S6      1850  S1 AND S2 AND S4
S7      2824  S5 OR S6
S8    588859  PEPTIDE
S9     91606  FOREIGN
S10       79  S1 AND S2 AND S3 AND S8
S11       16  S1 AND S2 AND S3 AND S9
S12      130  S1 AND S2 AND S4 AND S8
S13        0  S1 AND S2 AND S4 AND S0
S14      197  S1 AND S2 AND S4 AND S9
? s s10 or s11 or s12 or s14

       79  S10
       16  S11
      130  S12
      197  S14
  S15   376  S10 OR S11 OR S12 OR S14
? rd

...examined 50 records  (50)
...examined 50 records  (100)
...examined 50 records  (150)
...examined 50 records  (200)
...examined 50 records  (250)
...examined 50 records  (300)
...examined 50 records  (350)
...completed examining records
  S16   287  RD (unique items)
? s s16 and py<1993

Processing
      287  S16
 21486062  PY<1993
  S17   126  S16 AND PY<1993
? t s17/3,ab/1-126


 17/3,AB/1    (Item 1 from file: 5)
DIALOG(R)File  5:Biosis Previews(R)
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08756391  BIOSIS NO.: 199395045742
Tagging of %%%plant%%% potyvirus replication and movement by
 %%%insertion%%% of beta-glucuronidase into the %%%viral%%%
polyprotein.
AUTHOR: Dolja Valerian V; McBride Helen J; Carrington James C
AUTHOR ADDRESS:  Dep. Biol., Texas A and M University, College
Station,
 Texas 77843**USA
JOURNAL: Proceedings of the National Academy of Sciences of the United
States of America  89 (21):p10208-10212 %%%1992%%%
ISSN: 0027-8424
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Infectious RNA transcripts were generated from full-length
cDNA
 clones of the tobacco etch potyvirus genome containing an
%%%insertion%%%
 of the bacterial beta-glucuronidase (GUS) gene between the
 polyprotein-coding sequences for the N-terminal 35-kDa proteinase and the
 helper component-proteinase. The recombinant %%%virus%%% was able
to
 spread systemically in %%%plants%%% and accumulated to a level
comparable
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09/580704
A 11846

1. Document ID: US 6225528 B1

L9: Entry 1 of 52

File: USPT

May 1, 2001

US-PAT-NO: 6225528
DOCUMENT-IDENTIFIER: US 6225528 B1
TITLE: Method of making pathogen-resistant plants by transformation with a fatty acid desaturase
gene
DATE-ISSUED: May 1, 2001

US-CL-CURRENT: 800/279

APPL-NO: 9/ 143567
DATE FILED: August 28, 1998

PARENT-CASE:
This application claims priority to U.S. Provisional Application No. 60/057,510, filed Sep. 4,
1997, which is incorporated by reference herein.

IN: Chin; Chee-Kok, Wang; Chunlin, Xing; Jinsong

AB: The present invention provides pathogen-resistant transgenic plants and methods
of making the plants. The transgenic plants display enhanced resistance to a variety of
fungal, bacterial and viral plant pathogens due to expression of a gene that increases the
unsaturated fatty acid content of the plant's cells, as compared with an equivalent, but
non-transformed plant. The preferred embodiment of the invention is a plant expressing a
heterologous .DELTA.-9 desaturase gene from yeast, which particularly increases cytosolic
quantities of 16:1, 16:2 and 18:1 fatty acids.

L9: Entry 1 of 52

File: USPT

May 1, 2001

DOCUMENT-IDENTIFIER: US 6225528 B1
TITLE: Method of making pathogen-resistant plants by transformation with a fatty acid desaturase
gene

ABPL:
The present invention provides pathogen-resistant transgenic plants and methods of making the
plants. The transgenic plants display enhanced resistance to a variety of fungal, bacterial and
viral plant pathogens due to expression of a gene that increases the unsaturated fatty acid
content of the plant's cells, as compared with an equivalent, but non-transformed plant. The
preferred embodiment of the invention is a plant expressing a heterologous .DELTA.-9 desaturase
gene from yeast, which particularly increases cytosolic quantities of 16:1, 16:2 and 18:1 fatty
acids.

2. Document ID: US 6147278 A

L9: Entry 2 of 52

File: USPT

Nov 14, 2000

US-PAT-NO: 6147278
DOCUMENT-IDENTIFIER: US 6147278 A
TITLE: Plant vectors
DATE-ISSUED: November 14, 2000

US-CL-CURRENT: 800/278; 435/320.1, 435/468, 435/469, 435/69.1, 536/23.72, 800/288

APPL-NO: 9/ 261770
DATE FILED: March 3, 1999

PARENT-CASE:
CROSS-REFERENCE TO RELATED APPLICATION This application is a continuation of application Ser. No.
07/711,576 filed May 31, 1991, now abandoned, which is a continuation of application Ser. No.
07/209,239 filed Jun. 26, 1988, now abandoned, which is a continuation-in-part of application
Ser. No. 06/899,270 filed Aug. 26, 1986, now abandoned, which is a continuation-in-part of
application Ser. No. 06/791,249 filed Oct. 25, 1985, now abandoned.

IN: Rogers; Stephen G., Brand; Leslie, Horsch; Robert B., Fraley; Robert T., Elmer;
James Scott, Bisaro; David

AB: The invention relates to novel plant plasmid vectors comprising geminivirus DNA
or a portion thereof having inserted therein a heterologous DNA sequence or gene, to
processes and DNA intermediates useful in producing said vectors and to methods utilizing
such vectors to replicate and express heterologous DNA sequences or genes in plants. In some
embodiments, methods and compositions are provided for Ti plasmid delivery of these novel
vectors into plants. In other embodiments, methods and compositions are provided which allow
for the generation of geminivirus DNA containing plant plasmids in stably transformed
plants. In still other embodiments, methods and compositions are provided for replicating
and expressing heterologous DNA sequences or genes in plants employing the geminivirus DNA
containing vectors of the present invention without causing disease symptoms.

L9: Entry 2 of 52

File: USPT

Nov 14, 2000

DOCUMENT-IDENTIFIER: US 6147278 A
TITLE: Plant vectors

DEPR:
While neither the transgenic A- or B-containing plants exhibited virus disease symptoms, it was
demonstrated, in Example 14, supra, that inoculation of B-containing plants with vectors
comprising the TGMV A-component subsequently displayed virus symptoms. Subsequent experiments by
Sunter et al (1987) have shown that one-quarter of the progeny produced by crossing a transgenic
A plant with a transgenic B plant show geminivirus symptoms and contain infectious virus
particles. These results show that the integrated tandem copies of the TGMV DNA's are functional,
are able to be released from their integrated state and maintain their ability to produce
infectious virus when genetically combined in the same cell. These results further demonstrate
that the A component contains the necessary sequences and/or genes to

enable release of B
component DNA from its integrated state. Specifically, the ability of TGMV-A component DNA (e.g.
coat protein-encoding geminivirus DNA molecules) to cause the release and subsequent replication
of TGMV-B component DNA molecules, demonstrates that a geminivirus trans-acting factor(s) is
(are) encoded in the TGMV-A component DNA. Additionally, these results demonstrate that both the
TGMV-A and -B component DNA's contain a sequence or sequences responsive to the geminivirus
trans-acting factor(s). A geminivirus DNA sequence responsive to a geminivirus trans-acting
factor is understood herein to mean a geminivirus DNA sequence, the presence of which coupled to
the presence of a geminivirus trans-acting factor, results in the autonomous replication of a DNA
molecule containing the responsive sequence. it was further demonstrated, in Examples 13 and 14
supra, that heterologous DNA sequences can be inserted into and/or in place of the coat protein
gene without disrupting the ability of the TGMV A-component to form plasmid DNA molecules in
plant cells or cause disease symptoms in transgenic plants containing tandem copies of the TGMV
B-component. These results demonstrate that the DNA sequences coding for the geminivirus coat
protein per se are not required for replication of geminivirus DNA or geminivirus-containing
plasmid DNA molecules in plants and/or plant cells. Specifically, Examples 13 and 14, supra,
teach that neither the geminivirus trans-acting factor nor sequences responsive to said factor
are contained within the DNA sequences encoding the TGMV coat protein. These foregoing examples
further set forth a method by which one of skill in the art can determine the minimal sequence or
sequences required for binary geminivirus replication in a plant cell. Specifically, the
foregoing examples demonstrate that by performing conventional deletion and/or mutation analysis,
a minimal binary geminivirus replicon can be determined.

3. Document ID: US 6146628 A

L9: Entry 3 of 52 File: USPT Nov 14, 2000

US-PAT-NO: 6146628
DOCUMENT-IDENTIFIER: US 6146628 A
TITLE: Biotherapeutic agents comprising recombinant PAP and PAP mutants
DATE-ISSUED: November 14, 2000

US-CL-CURRENT: 424/134.1; 424/142.1, 424/143.1, 424/147.1, 424/148.1, 424/183.1, 424/184.1,
424/187.1

APPL-NO: 8/ 501253
DATE FILED: July 11, 1995

IN: Uckun; Fatih M., Tumer; Nilgun E.

AB: Biotherapeutic agents are provided which comprise recombinant PAP or a
biologically equivalent variant or mutant thereof, linked to a targeting moiety which are
effective for the treatment of certain human diseases. The invention further provides a
process for producing the biotherapeutic agents as well as a method which utilizes the
disclosed biotherapeutic agents to systemically treat cancer patients.

L9: Entry 3 of 52 File: USPT Nov 14, 2000

DOCUMENT-IDENTIFIER: US 6146628 A
TITLE: Biotherapeutic agents comprising recombinant PAP and PAP mutants

BSPR:
PAP displays broad-spectrum antiviral activity against plant viruses, herpes simplex virus,
cytomegalovirus, poliovirus, and influenza virus. Aron et al., Agents Chemotherapy, 17, 1032
(1980). In fact, pokeweed antiviral protein was discovered due to its ability to inhibit the
transmission of tobacco mosaic virus (TMV) in plants and it was subsequently demonstrated that
the purified protein was equally effective against a number of other plant viruses. Tomlinson et
al., J. Gen. Virol., 22, 225 (1974). All of these experiments were performed in a similar manner;
PAP was mixed with the virus inoculum which was then rubbed on plant leaves in the presence of an
abrasive substance, such as carborundum, which damages the tissue allowing the entry of the virus
and presumably the PAP. Using this method, it was found that highly diluted solutions of PAP were
capable of inhibiting local lesion formation caused by southern bean mosaic virus as well as
cucumber mosaic virus. Wyatt et al., Phytopath., 59, 1787 (1969); Tomlinson et al., cited supra.
Using the local lesion assay system on Phaseolus vulgaris, it has been shown that PAP inhibited
viral infection at very low concentrations. Irvin et al., Arch. Biochem. Biophys., 200, 418
(1980). PAP has also been shown to effectively inhibit TWV infection of tobacco protoplasts with
nearly complete inhibition obtained with 10 .mu.g/mL (.apprxeq.300 nM). Grasso et al.,
Phytopath., 98, 53 (1980). Furthermore, in a study done to compare the relative antiviral
properties of a number of ribosome inactivating proteins (RIPs) including PAP upon the formation
of local lesions on Nicotiana glutinosa by TMV, it was found that all of the RIPs tested had
antiviral activity, but none of the studied RIP's were as effective as PAP. Stevens et al.,
Experientia, 37, 257 (1981).

4. Document ID: US 6133505 A

L9: Entry 4 of 52 File: USPT Oct 17, 2000

US-PAT-NO: 6133505
DOCUMENT-IDENTIFIER: US 6133505 A
TITLE: Phytopathogenic geminivirus resistant transgenic plants and seeds and methods for
obtaining same by introduction of mutated C1 gene
DATE-ISSUED: October 17, 2000

US-CL-CURRENT: 800/280; 435/440

APPL-NO: 8/ 809103
DATE FILED: March 17, 1997

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY
APPL-NO
APPL-DATE
FR
94 11040
September 15, 1994

PCT-DATA:
APPL-NO
DATE-FILED
PUB-NO
PUB-DATE
371-DATE
102(E)-DATE
PCT/FR95/01192
September 15, 1995
WO96/08573
Mar 21, 1996
Mar 17, 1997
Mar 17, 1997

IN: Gronenborn; Bruno

AB: Nucleotide sequences produced by mutation (also known as mutant nucleotide sequences) of C1 nucleotide sequences present in a pathogenic geminivirus genome in plants with one or more mutations capable of producing a dominant negative phenotype for the replication of the pathogenic virus, its diffusion in a plant, or its spread from one plant to another, especially through vectors such as insects, the mutant nucleotide sequences being capable of fully or partially inhibiting the replication and/or diffusion and/or spread of the pathogenic virus for producing phytopathogenic geminivirus resistant or tolerant transgenic plants.

L9: Entry 4 of 52
File: USPT
Oct 17, 2000

DOCUMENT-IDENTIFIER: US 6133505 A
TITLE: Phytopathogenic geminivirus resistant transgenic plants and seeds and methods for obtaining same by introduction of mutated C1 gene

DEPR:
To confirm these results, leaf discs of potentially resistant plants are agroinoculated with the STYLCV. Seven days after agroinoculation, the various forms of viral DNA (ss and ds) are detected in the leaf discs of non-transgenic N. benthamiana. This provides evidence of good infectivity of the clone used for inoculating the leaf discs. Three plants display very reduced replication relative to a positive control: these are resistant plants (absence of symptoms, but residual replication of the viral DNA). Two plants do not have any form of viral DNA: these are completely resistant plants. Curiously, two plants have the various forms of viral DNA, whereas no signal was visible in squash or in Southern blot. This might be explained by the "inoculum pressure" used in the experiments of agroinoculation of leaf discs. This "inoculum pressure" is higher than was used in the agroinoculation of whole plants, and so would lead to a change of the ratio of mutated to wild-type C1 proteins in favour of the wild-type protein, and consequently to replication of the viral DNA. On the other hand this (ambiguous) behaviour might correspond to an inhibition of the movement (at long range?) of the virus in planta, since the agroinoculation of leaf discs makes it possible to avoid phenomena of movement at long range.

5. Document ID: US 6110466 A

L9: Entry 5 of 52
File: USPT
Aug 29, 2000

US-PAT-NO: 6110466
DOCUMENT-IDENTIFIER: US 6110466 A
TITLE: Modified plant viruses as vectors
DATE-ISSUED: August 29, 2000

US-CL-CURRENT: 424/199.1; 424/185.1, 424/186.1, 424/188.1, 424/192.1, 424/202.1, 424/204.1, 435/235.1, 435/69.1

APPL-NO: 8/ 137032
DATE FILED: December 15, 1993

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY
APPL-NO
APPL-DATE
GB
9108386
April 19, 1991

PCT-DATA:
APPL-NO
DATE-FILED
PUB-NO
PUB-DATE
371-DATE
102(E)-DATE
PCT/GB92/00589
April 2, 1992
WO92/18618
Oct 29, 1992
Dec 15, 1993
Dec 15, 1993

IN: Lomonossoff; George Peter, Johnson; John Emil

AB: The invention relates to assembled particles of a plant virus containing a predetermined foreign peptide as part of the coat protein of the virus, and a method for their production. The foreign peptide is preferably a biologically functional peptide, the biological application of which requires or is enhanced by presentation of the peptide in association with a larger molecule or particle.

L9: Entry 5 of 52
File: USPT
Aug 29, 2000

DOCUMENT-IDENTIFIER: US 6110466 A
TITLE: Modified plant viruses as vectors

ABPR:
The invention relates to assembled particles of a plant virus containing a predetermined foreign peptide as part of the coat protein of the virus, and a method for their production. The foreign peptide is preferably a biologically functional peptide, the biological application of which requires or is enhanced by presentation of the peptide in association with a larger molecule or particle.

BSPR:
This invention relates to the use of viruses as carriers (vectors) for the production or presentation of foreign peptides. More particularly, the invention relates to the genetic manipulation of viral nucleic acid by incorporation of foreign nucleic acid sequences which are expressed as peptides in the virus particle (virion). In this specification the term "foreign", as applied to a peptide or to the nucleic acid encoding therefor, signifies peptide or nucleic acid sequences which are not native to the plant virus used as a vector. Such sequences can be alternatively described as exogenous or heterologous sequences. The term "peptide" includes small peptides and polypeptides.

BSPR:
The present invention utilises plant viruses as vector systems for the expression of foreign nucleotide sequences ie nucleotide sequences (RNA or DNA) which are not present in plant viruses, as found in Nature, and which in consequence code for peptides not normally found in any naturally occurring plant virus.

BSPR:
The present invention comprises assembled particles of a plant virus containing a foreign peptide. The plant viruses of the present invention are therefore modified forms of the native viruses and for convenience will be referred to as modified viruses.

BSPR:
The foreign peptides which may be incorporated into plant viruses according to this invention may be of highly diverse types and are subject only to the limitation that the nature and size of the foreign peptide and the site at which it is placed in or on the virus particle do not interfere with the capacity of the modified virus to assemble when cultured in vitro or in vivo. In broad concept, modified viruses may be formed from any biologically useful peptides (usually polypeptides) the function of which requires a particular conformation for its activity. This may be achieved by association of the peptide with a larger molecule eg to improve its stability or mode of presentation in a particular biological system. Examples of such peptides are peptide hormones; enzymes; growth factors; antigens of protozoal, viral, bacterial, or fungal origin; antibodies including anti-idiotypic antibodies; immunoregulators and cytokines eg interferons and interleukins; receptors; adhesins; and parts or precursors of any of the foregoing types of peptide. The peptide preferably contains more than 5 amino acids.

BSPR:
To produce modified plant virus particles in accordance with this invention the plant viral nucleic acid is modified by introducing a nucleotide sequence coding for the foreign peptide eg an animal virus antigen at that part of the plant viral genome which codes for an exposed portion of the coat protein, infecting plants or plant cells with the modified viral nucleic acid, and harvesting assembled particles of the modified virus. This procedure is best carried out by direct manipulation of the DNA of the virus in the case of DNA viruses or by manipulation of a cDNA corresponding to the RNA of an RNA virus. In the case of an RNA virus, an RNA transcript of the modified DNA is usually prepared for inoculation of plant cells or preferably whole plants so as to achieve a multiplication stage prior to the harvesting of assembled particles of the modified virus. In the case of a DNA virus, the DNA itself is introduced into the plant. In this way, the foreign peptide is initially expressed as part of the capsid protein and is thereby produced as part of the whole virus particle. The peptide may thus be produced as a conjugate molecule intended for use as such. Alternatively, the genetic modification of the virus may be designed in order to permit release of the desired peptide by the application of appropriate agents which will effect cleavage from the virus particle.

CLPR:
1. Assembled particles of a plant virus containing a foreign peptide encoded by an exogenous nucleotide sequence as part of the coat protein of the virus, the particles having been assembled in whole plants or in plant cells, and wherein the coat protein of the virus has a .beta.-barrel structure and said virus is selected from the group consisting of Comoviruses, Tombusviruses, Sobemoviruses, and Nepoviruses, and the site of insertion of the foreign peptide is in a loop between individual strands of .beta. sheet.

CLPR:
8. Virus particles according to claim 1, in which the foreign peptide is inserted in the .beta.B-.beta.C loop of the plant virus.

6. Document ID: US PP11418 P

L9: Entry 6 of 52

File: USPT

Jun 13, 2000

US-PAT-NO: PP11418
DOCUMENT-IDENTIFIER: US PP11418 P
TITLE: Raspberry plant named 'Glen Ample'
DATE-ISSUED: June 13, 2000

US-CL-CURRENT: PLT/204

APPL-NO: 9/ 069762
DATE FILED: April 30, 1998

IN: McNicol; Ronnie J., Jennings; Derek L.

AB: The new and distinct cultivar of raspberry (i.e., Rubus idaeus L.) is provided.
The cultivar forms attractive large bright red berries of good flavor in exceptionally high yields on long fruiting laterals. The drupelet cohesion tends to be somewhat reduced when the plant is grown in cooler climates (e.g., Scotland). The plant exhibits a spine-free very

upright growth habit of good vigor. The berries are suitable for consumption as high grade
fresh fruit and also are amenable to processing. Additionally, the plant has displayed
resistance to Amphorophora idaei aphid virus vector.

L9: Entry 6 of 52
File: USPT
Jun 13, 2000

DOCUMENT-IDENTIFIER: US PP11418 P
TITLE: Raspberry plant named 'Glen Ample'

ABPL:
The new and distinct cultivar of raspberry (i.e., Rubus idaeus L.) is provided. The cultivar
forms attractive large bright red berries of good flavor in exceptionally high yields on long
fruiting laterals. The drupelet cohesion tends to be somewhat reduced when the plant is grown in
cooler climates (e.g., Scotland). The plant exhibits a spine-free very upright growth habit of
good vigor. The berries are suitable for consumption as high grade fresh fruit and also are
amenable to processing. Additionally, the plant has displayed resistance to Amphorophora idaei
aphid virus vector.

IN: de Haan; Petrus Theodorus

AB: Plant transformation vectors comprising a polynucleotide effective to render
resisitance or tolerance to infection by a tospovirus, and a microbiological process for
making virus tolerant or resistant plants are provided herein.

L9: Entry 7 of 52
File: USPT
May 2, 2000

DOCUMENT-IDENTIFIER: US 6057492 A
TITLE: Plants resistant to tospoviruses

CLPR:
17. A microbiological process for making virus tolerant or resistant plants, comprising the steps
of: (i) transforming regenerable plant material with a polynucleotide comprising a sequence which
hybridizes under stringent conditions to a polynucleotide having the sequence of SEQ ID NO.: 1,
or to a polynucleotide comprising nucleotides 3813 to 4721 of SEQ ID NO.: 1 (ii) regenerating the
transformed regenerable plant material into a morphologically normal fertile plant; and (iii)
selecting a plant that displays resistance or tolerance when exposed to a virus.

7. Document ID: US 6057492 A

L9: Entry 7 of 52
File: USPT
May 2, 2000

US-PAT-NO: 6057492
DOCUMENT-IDENTIFIER: US 6057492 A
TITLE: Plants resistant to tospoviruses
DATE-ISSUED: May 2, 2000

US-CL-CURRENT: 800/280; 435/320.1, 435/419, 435/468, 435/69.1, 536/23.72, 800/265, 800/279,
800/301

APPL-NO: 8/913374
DATE FILED: September 18, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9505907	March 23, 1995

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/EP96/01271	March 22, 1996	WO96/29420	Sep 26, 1996	Sep 18, 1997	Sep 18, 1997

8. Document ID: US 6013864 A

L9: Entry 8 of 52
File: USPT
Jan 11, 2000

US-PAT-NO: 6013864
DOCUMENT-IDENTIFIER: US 6013864 A
TITLE: Plants resistant to infection by luteoviruses
DATE-ISSUED: January 11, 2000

US-CL-CURRENT: 800/301; 435/320.1, 435/419, 435/468, 536/23.72, 800/280, 800/288, 800/317.2,
800/317.3, 800/317.4, 800/320, 800/320.2, 800/320.3

APPL-NO: 8/617454
DATE FILED: March 18, 1996

PARENT-CASE:
The present application is a continuation-in-part of U.S. patent application Ser. No. 08/326,297,
filed Oct. 20, 1994, now U.S. Pat. No. 5,510,253, which is a continuation of U.S. patent
application Ser. No. 08/012,688, filed Feb. 3, 1993, now abandoned.

IN: Mitsky; Timothy Albert, Hemenway; Cynthia Lou, Tumer; Nilgun Ereken, Lawson;
Edgar Clifford

AB: An isolated DNA sequence which codes for a luteo replicase gene is disclosed
herein. A method for providing resistance to infection by a virus by expressing a replicase
gene in plants is also disclosed, as are transgenic plants containing the replicase gene.

L9: Entry 8 of 52

File: USPT

Jan 11, 2000

DOCUMENT-IDENTIFIER: US 6013864 A
TITLE: Plants resistant to infection by luteoviruses

DEPR:
PLRV is not mechanically transmissible. Spread of PLRV from infected plants to uninfected plants
can only be accomplished by aphids. This is the reason that insecticide application is currently
necessary for controlling this disease. Virus resistant potatoes will no longer require
insecticides to control aphids. Potato cultivars which are resistant to PLRV often display no or
reduced titers of PLRV and the virus is not as easily transmitted from these plants to other
plants by aphids. This characteristic is of commercial significance because it limits the
potential for virus epidemics in the field.

9. Document ID: US 6001986 A

L9: Entry 9 of 52

File: USPT

Dec 14, 1999

US-PAT-NO: 6001986
DOCUMENT-IDENTIFIER: US 6001986 A
TITLE: Antiviral proteins, amarandin 1 and 2, from Amaranthus viridis, DNAs encoding therefrom
DATE-ISSUED: December 14, 1999

US-CL-CURRENT: 536/23.6; 435/252.3, 435/320.1, 435/471

APPL-NO: 8/ 916443
DATE FILED: August 22, 1997

IN: Kim; Yong Sig, Park; Sun Chung, Oh; Soo Kyung, Lee; Hosull, Cho; Jeong Woo,
Chung; Chang H.

AB: DNA sequences encoding antiviral proteins, amarandin 1 and 2 from Amaranthus
viridis is disclosed. Expression vectors encoding amarandin 1 or 2 and transformed host
cells are also disclosed.

L9: Entry 9 of 52

File: USPT

Dec 14, 1999

DOCUMENT-IDENTIFIER: US 6001986 A
TITLE: Antiviral proteins, amarandin 1 and 2, from Amaranthus viridis, DNAs encoding therefrom

BSPR:
During our screening studies searching for new RIP we found that Amaranthus viridis crude
extracts displayed both translational inhibitory and antiviral activities against plant viruses.

10. Document ID: US 5998699 A

L9: Entry 10 of 52

File: USPT

Dec 7, 1999

US-PAT-NO: 5998699
DOCUMENT-IDENTIFIER: US 5998699 A
TITLE: Potyvirus coat protein genes and plants transformed therewith
DATE-ISSUED: December 7, 1999

US-CL-CURRENT: 800/301; 435/419, 536/23.72, 800/280

APPL-NO: 8/ 358653
DATE FILED: December 19, 1994

PARENT-CASE:
The present application is a continuation of U.S. Ser. No. 08/232,846, filed Apr. 25, 1994, now
abandoned which is a continuation of U.S. Ser. No. 08/013,971, filed Feb. 4, 1993, now abandoned
which is a continuation of U.S. Ser. No. 07/656,167, filed Feb. 19, 1991, now abandoned, which is
a continuation of international application PCT/US89/03094, filed Jul. 20, 1989, which is a
continuation of U.S. Ser. No. 07/368,710, filed Jun. 19, 1989, now abandoned, which is a
continuation in part of U.S. Ser. No. 07/234,412, filed Aug. 19, 1988, and a continuation of U.S.
Ser. No. 07/323,536, filed Mar. 14, 1989, each now abandoned.

IN: Slightom; Jerry L., Quemada; Hector D., Gonsalves; Dennis, L'hostis; Brigitte

AB: The present invention relates to the coat protein genes of Papaya Ringspot Virus
Strain papaya ringspot (PRV-p), Watermelon Mosaic Virus II (WMVII), and Zucchini Yellow
Mosaic Virus (ZYMV); to expression vectors which contain a coat protein gene for PVP-p,
WMVII or ZYMV, and, additionally, the necessary genetic regulatory sequences needed for
expression of a gene transferred into a plant; to bacterial or plant cells which are
transformed with an expression vector containing the PVP-p, WMVII or ZYMV coat protein
genes; to transgenic plants which are produced from plant cells transformed with an
expression vector containing the coat protein gene from PVP-p, WMVII or ZYMV; and to a
process of producing transgenic plants which have increased resistance to viral infection.

L9: Entry 10 of 52

File: USPT

Dec 7, 1999

DOCUMENT-IDENTIFIER: US 5998699 A
TITLE: Potyvirus coat protein genes and plants transformed therewith

BSPR:
Turner et al. (1987) "Expression of alfalfa mosaic virus coat protein gene confers
cross-protection in transgenic tobacco and tomato plants", EMBO J. 6:1181-1188, disclose
transgenic tobacco and tomato plants transformed with the coat protein gene of alfalfa mosaic
virus displayed increased resistance to infection by alfalfa mosaic virus.

11. Document ID: US 5990388 A

L9: Entry 11 of 52

File: USPT

Nov 23, 1999

US-PAT-NO: 5990388
DOCUMENT-IDENTIFIER: US 5990388 A
TITLE: Resistance to viruses and viroids in transgenic plants and animals expressing
dsRNA-binding protein
DATE-ISSUED: November 23, 1999

US-CL-CURRENT: 800/301; 435/320.1, 800/280, 800/317.2, 800/317.3

APPL-NO: 8/ 482286
DATE FILED: June 7, 1995

IN: Roth; Don Allen, Langland; Jeffrey Olaf

AB: The invention provides a method for imparting resistance in animals to viruses,
and in plants to viruses and viroids, that express double-stranded RNA-like structures
(dsRNAs). This method enables the binding of pathogenic dsRNAs during the infection process
by expression of dsRNA-binding protein in transgenic animal and plant hosts, thus
interrupting the infection cycle and inhibiting disease. The presence of a dsRNA-binding
protein in a transgenic host renders the transgenic host resistant to the phenotypic
symptoms of viral infection and/or decreased pathogen replication. Accordingly, the present
invention provides a genetically engineered animal and plant, stably transformed to express
a dsRNA-binding protein, such that the transgenic host displays resistance to virus and/or
viroid challenge.

L9: Entry 11 of 52

File: USPT

Nov 23, 1999

DOCUMENT-IDENTIFIER: US 5990388 A
TITLE: Resistance to viruses and viroids in transgenic plants and animals expressing
dsRNA-binding protein

ABPL:
The invention provides a method for imparting resistance in animals to viruses, and in plants to
viruses and viroids, that express double-stranded RNA-like structures (dsRNAs). This method
enables the binding of pathogenic dsRNAs during the infection process by expression of
dsRNA-binding protein in transgenic animal and plant hosts, thus interrupting the infection cycle
and inhibiting disease. The presence of a dsRNA-binding protein in a transgenic host renders the
transgenic host resistant to the phenotypic symptoms of viral infection and/or decreased pathogen
replication. Accordingly, the present invention provides a genetically engineered animal and
plant, stably transformed to express a dsRNA-binding protein, such that the transgenic host
displays resistance to virus and/or viroid challenge.

BSPR:
Accordingly, the present invention provides a genetically engineered animal and plant, stably
transformed to express constitutively a dsRNA-binding protein, such that the transgenic host
displays resistance to virus and/or viroid challenge. One aspect of the invention contemplates
broad spectrum resistance in transgenic plant cells to plant viruses having a dsRNA-like
structure, including but not limited to the phytoreovirus group, the tymovirus group, luteovirus
group, tombusvirus group, Southern bean mosaic virus group, tobacco necrosis virus group, maize
chlorotic dwarf virus group, closterovirus group, carlavirus group, potyvirus group, potexvirus
group, tobamovirus group, nepovirus group, pea enation mosaic virus group, comovirus group,
tobravirus group, cucumovirus group, bromovirus group, ilarvirus group, alfalfa mosaic virus
group, and hordeivirus group; and to plant viroids having a dsRNA-like structure, including but
not limited to the potato spindle tuber viroid, the coconut cadang-cadang viroid group, avocado
sunblotch viroid group, and hop latent viroid group.

12. Document ID: US 5977438 A

L9: Entry 12 of 52

File: USPT

Nov 2, 1999

US-PAT-NO: 5977438
DOCUMENT-IDENTIFIER: US 5977438 A
TITLE: Production of peptides in plants as viral coat protein fusions
DATE-ISSUED: November 2, 1999

US-CL-CURRENT: 800/288; 435/235.1, 435/419, 435/468, 435/69.7, 435/70.1, 536/23.4, 536/23.5,
536/23.72, 800/278, 800/298

APPL-NO: 8/ 324003
DATE FILED: October 14, 1994

PARENT-CASE:
CROSS-REFERENCE TO RELATED APPLICATIONS The present application is a continuation-in-part of
application Ser. No. 08/176,414, filed on Dec. 29, 1993, now U.S. Pat. No. 5,811,653, which is a
continuation-in-part of application Ser. No. 07/997,733, filed Dec. 30, 1992, now abandoned. The
present application is also a continuation-in-part of application Ser. No. 08/184,237, filed Jan.
19, 1994, now U.S. Pat. No. 5,589,367 which is a continuation-in-part of application Ser. No.
07/997,733, filed Dec. 30, 1992, now abandoned, which is a continuation of application Ser. No.
07/923,692, filed Jul. 31, 1992, now U.S. Pat. No. 5,316,931, which is a continuation-in-part of
applications Ser. No. 07/600,244, filed Oct. 22, 1990, now abandoned, Ser. No. 07/641,617, filed
Jan. 16, 1991, now abandoned, application Ser. No. 07/737,899, filed Jul. 26, 1991, now
abandoned, and application Ser. No. 07/739,143, filed Aug. 1, 1991, now abandoned. Application
Ser. No. 07/600,244 is a continuation of application Ser. No. 07/310,881, filed Feb. 17,1989, now
abandoned, which is a continuation-in-part of applications Ser. No. 07/160,766 and Ser. No.
07/160,771, both filed on Feb. 26, 1988 and now abandoned. Application Ser. No. 07/641,617 is a
continuation of application Ser. No. 07/347,637, filed May 5, 1989, now

abandoned. Application
Ser. No. 07/737,899 is a continuation of application Ser. No. 07/363,138, filed Jun. 8, 1989, now
abandoned, which is a continuation-in-part of application Ser. No. 07/219,279, filed Jul. 15,
1988, now abandoned. Application Ser. No. 07/739,143 is a continuation-in-part of applications
Ser. No. 07/600,244, filed Oct. 22, 1990, now abandoned, Ser. No. 07/641,617, filed Jan. 16,
1991, now abandoned, and Ser. No. 07/737,899, filed Jul. 26, 1991, now abandoned.

IN: Turpen; Thomas H., Reinl; Stephen J., Grill; Laurence K.

AB: The present invention relates to foreign peptide sequences fused to recombinant
plant viral structural proteins and a method of their production. Fusion proteins are
economically synthesized in plants at high levels by biologically contained tobamoviruses.
The fusion proteins of the invention have many uses. Such uses include use as antigens for
inducing the production of antibodies having desired binding properties, e.g., protective
antibodies, or for use as vaccine antigens for the induction of protective immunity,
including immunity against parasitic infections.

L9: Entry 12 of 52 File: USPT Nov 2, 1999

DOCUMENT-IDENTIFIER: US 5977438 A
TITLE: Production of peptides in plants as viral coat protein fusions

ABPL:
The present invention relates to foreign peptide sequences fused to recombinant plant viral
structural proteins and a method of their production. Fusion proteins are economically
synthesized in plants at high levels by biologically contained tobamoviruses. The fusion proteins
of the invention have many uses. Such uses include use as antigens for inducing the production of
antibodies having desired binding properties, e.g., protective antibodies, or for use as vaccine
antigens for the induction of protective immunity, including immunity against parasitic
infections.

13. Document ID: US 5958422 A

L9: Entry 13 of 52 File: USPT Sep 28, 1999

US-PAT-NO: 5958422
DOCUMENT-IDENTIFIER: US 5958422 A
TITLE: Modified plant viruses as vectors of heterologous peptides
DATE-ISSUED: September 28, 1999

US-CL-CURRENT: 424/199.1; 435/320.1, 435/419, 435/421, 514/2, 536/23.4, 536/23.6

APPL-NO: 8/ 612858
DATE FILED: June 5, 1996

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY APPL-NO APPL-DATE
GB 9414118 July 13, 1994

PCT-DATA:
APPL-NO DATE-FILED PUB-NO PUB-DATE 371-DATE 102(E)-DATE
PCT/GB95/01618 July 10, 1995 WO96/02649 Feb 1, 1996 Jun 5, 1996 Jun 5, 1996

IN: Lomonossoff; George Peter

AB: The invention relates to assembled particles of a plant virus containing a
foreign peptide insert in the coat protein of the virus. The site of the insert is free from
direct sequence repeats flanking the insert. The invention also relates to a method of
production of the particles and their use, in particular in vaccines.

L9: Entry 13 of 52 File: USPT Sep 28, 1999

DOCUMENT-IDENTIFIER: US 5958422 A
TITLE: Modified plant viruses as vectors of heterologous peptides

ABPR:
The invention relates to assembled particles of a plant virus containing a foreign peptide insert
in the coat protein of the virus. The site of the insert is free from direct sequence repeats
flanking the insert. The invention also relates to a method of production of the particles and
their use, in particular in vaccines.

BSPR:
This invention relates to the use of viruses as carriers (vectors) for the production or
presentation of foreign peptides. More particularly, the invention relates to the genetic
manipulation of viral nucleic acid by incorporation of foreign nucleic acid sequences which are
expressed as peptides in the virus particle (virion). In this specification the term "foreign",
as applied to a peptide or to the nucleic acid encoding therefor, signifies peptide or nucleic
acid sequences which are not native to the plant virus used as a vector. Such sequences can be
alternatively described as exogenous or heterologous sequences. The term "peptide" includes small
peptides and polypeptides.

BSPR:
Our patent application WO 92/18618 describes the utilization of plant viruses as vector systems
for the expression of foreign nucleotide sequences, ie nucleotide sequences (RNA or DNA) which
are not present in plant viruses, as found in Nature, and which in consequence code for peptides

not normally found in any naturally occurring plant virus. The invention described therein
comprises assembled particles of a plant virus containing a foreign peptide. The plant viruses of
the invention are therefore modified forms of the native viruses and for convenience will be
referred to as modified viruses.

BSPR:
The foreign peptides which may be incorporated into plant viruses according to our prior
application WO92/18618 may be of highly diverse types and are subject only to the limitation that
the nature and size of the foreign peptide and the site at which it is placed in or on the virus
particle do not interfere with the capacity of the modified virus to assemble when cultured in
vitro or in vivo. In broad concept, modified viruses may be formed from any biologically useful
peptides (usually polypeptides) the function of which requires a particular conformation for its
activity. This may be achieved by association of the peptide with a larger molecule eg to improve
its stability or mode of presentation in a particular biological system. Examples of such
peptides are peptide hormones; enzymes; growth factors; antigens of protozoal, viral, bacterial,
fungal or animal origin; antibodies including anti-idiotypic antibodies; immunoregulators and
cytokines, eg interferons and interleukins; receptors; adhesions; and parts of precursors of any
of the foregoing types of peptide. The peptide preferably contains more than 5 amino acids.

BSPR:
Firstly, the process used for modifying the plant viral nucleic acid by introducing a nucleotide
sequence coding for a foreign peptide should avoid the presence of direct sequence repeats
flanking the insert. In the context of the present invention a construct containing a direct
sequence repeat is one in which an identical oligonucleotide sequence is present on both sides of
the inserted nucleotide. Such constructs can be genetically unstable because recombination can
occur between the sequence repeats leading to loss of the foreign peptide coding sequence and
reversion to the wild type sequence. Secondly, where the foreign oligonucleotide sequence is
inserted into the plant virus genome as a substitution for part of the existing sequence, the
resultant modified viral coat protein may be missing in an amino acid sequence which is important
for virus replication, encapsidation and spread in the plant. This defect may be readily
determined and avoided. Thirdly, the heterologous sequence should not be inserted at a
sub-optimal site.

BSPR:
The present invention comprises assembled particles of a plant virus containing a foreign peptide
in which the corresponding foreign nucleic acid has been inserted into the plant virus genome in
the absence of direct sequence repeats flanking the insert and preferably as an addition to the
existing nucleic acid.

BSPR:
In a further aspect of the present invention, cDNA clones of CPMV RNAs M and B have been
constructed, in which the cDNA clone of the M RNA contains an inserted oligonucleotide sequence
encoding a foreign peptide, which make use of the cauliflower mosaic virus (CaMV) 35S promoter
sequence linked to the 5' ends of the viral cDNAs to generate infectious transcripts in the
plant. This technique overcomes some of the problems encountered with the use of transcripts
generated in vitro and is applicable to all plant RNA viruses.

DEPR:
Oligonucleotide sequences encoding various foreign peptides (see Table 1) were substituted for
the sequence between the Nhe1 and AatII sites of pCP2-AatII as described in Example 1. The
pCP2-AatII variants and pCP-1 were linearised and inoculated onto the primary leaves of cowpea
plants. In all cases infections developed and stable chimaeric virus particles expressing the
appropriate foreign peptide were recovered from plants.

CLPR:
1. Assembled particles of a plant virus containing a foreign peptide insert as an addition at a
non-terminal site in the coat protein of the virus, the site of the insert in the coat protein
corresponding to a site in the plant virus genome which is free from direct nucleotide sequence
repeats flanking the insert and wherein the coat protein of the virus has a .beta.-barrel
structure and the site of insertion of the foreign peptide is in a loop connecting .beta. sheets
of the plant virus, wherein the plant virus is a comovirus.

CLPR:
4. Virus particles according to claim 1, in which the foreign peptide is inserted in the
.beta.B-.beta.C loop of the plant virus.

CLPR:
6. Virus particles according to claim 1 or 5, in which the foreign peptide is incorporated in an
exposed surface of the coat protein of the plant virus.

CLPR:
22. A method of producing plant virus particles according to any of claims 1 or 5, which
comprises inserting a nucleotide sequence coding for a foreign peptide into the virus genome of
the plant viral nucleic acid which codes for the coat protein so as to modify the plant viral
nucleic acid in such a way as to avoid the production of direct sequence repeats flanking the
introduced sequence, infecting plants, plant tissue, plant cells, or protoplasts with the
modified viral nucleic acid, and harvesting assembled particles of said plant virus.

CLPR:
24. A method according to any of claims 22, in which the foreign nucleotide sequence is inserted
by selecting two different restriction enzyme sites in the plant viral nucleic acid; cutting the
plant viral nucleic acid using the corresponding restriction enzymes; and inserting into the cut
viral nucleic acid a pair of complementary oligonucleotides which encode the foreign peptide and
which terminate in ends compatible with the restriction enzyme cutting sites, and wherein in the
complementary oligonucleotides, the sequence encoding the foreign peptide is flanked by plant
virus-specific sequences so that the foreign nucleotide sequence is inserted as an addition to
the plant viral nucleic acid.

CLPR:
25. A method according to claim 22, applied to an RNA plant virus, which comprises introducing a
DNA sequence coding for the foreign peptide into a cDNA corresponding to the RNA of the plant
virus which codes for an exposed portion of its coat protein, producing from the thus modified
cDNA an RNA transcript thereof, inoculating plants, plant tissue, plant cells, or protoplasts
with the transcript, optionally together with any other RNA required for

multiplication and
assembly of whole virus particles in the plant material, and harvesting assembled particles of
the modified virus.

CLPR:
26. A method according to claim 25, in which the modified cDNA is produced by introducing the DNA
encoding the foreign peptide into a DNA fragment excised from the plant viral cDNA, and
recombining the modified fragment so as to reconstitute the plant viral cDNA in modified form.

14. Document ID: US 5959181 A

L9: Entry 14 of 52
File: USPT
Sep 28, 1999

US-PAT-NO: 5959181
DOCUMENT-IDENTIFIER: US 5959181 A
TITLE: Method of preparation of transgenic plants resistant to viral infections and so obtained
plants
DATE-ISSUED: September 28, 1999

US-CL-CURRENT: 800/301; 435/320.1, 435/410, 435/419, 435/468, 536/23.72, 536/24.1, 536/24.5,
800/278, 800/279, 800/280, 800/286, 800/295, 800/298

APPL-NO: 8/ 854170
DATE FILED: May 9, 1997

IN: Cellini; Francesco, Grieco; Pasquale Domenico

AB: The present invention relates to a method of preparation of transgenic plants
resistant to viral infections by introducing into the genoma of a host plant an antisense
gene construct constituted by: the domain F of the subgenomic promoter of a viral RNA; a
leader sequence of a viral ORF, downstream from said subgenomic promoter; the gene encoding
a viral coat protein, downstream from said leader sequence; and the 3'-terminal region of a
viral RNA, downstream from said gene. The present invention also relates to a recombinant
vector comprising a promoter functional in a host plant, and, operably linked to this
promoter, the antisense gene construct of the present invention.

L9: Entry 14 of 52
File: USPT
Sep 28, 1999

DOCUMENT-IDENTIFIER: US 5959181 A
TITLE: Method of preparation of transgenic plants resistant to viral infections and so obtained
plants

BSPR:
Recently, it was demonstrated for different viral species with tripartite or monopartite RNA,
that, through the introduction into plants of RNA-4 gene encoding the coat protein, transgenic
plants can be obtained which display a strong decrease in disease symptoms when they are exposed
to infections with the same virus.

BSPR:
Another strategy used in order to obtain transgenic plants resistant to determined viruses
consists in inserting into the plant a DNA sequence which is complementary to a portion of the
viral genome in antisense orientation (not encoding). Unfortunately, the use of such a strategy
gave unsatisfactory results. In fact, transgenic tobacco plants, obtained by using the antisense
gene of the coat protein of CMV and PVX, displayed a tolerance to virus only when they were
infected with low inoculum concentrations (Cuozzo et al., Biotechnol., 6:549-557, (1988);
Hemenway et al., EMBO J. 7:1273-1280, 1988). Furthermore, discouraging results were obtained when
antisense genes were used which were capable of complementing with different domains of genomic
RNAs of CMV. In fact, only in one case low resistance levels were observed (Rezaian et al., Plant
Molecular Biology, 11:463-471, 1988).

BSPR:
It has now been found that the drawbacks displayed by the prior art, as discussed hereinabove,
can be overcome by means of the method according to the present invention, which is based on the
use of an antisense gene construct which allows transgenic plants to be obtained which display a
complete resistance to virus, in absence of production of coat protein.

15. Document ID: US 5955647 A

L9: Entry 15 of 52
File: USPT
Sep 21, 1999

US-PAT-NO: 5955647
DOCUMENT-IDENTIFIER: US 5955647 A
TITLE: Method for using tobacco mosaic virus to overproduce peptides and proteins
DATE-ISSUED: September 21, 1999

US-CL-CURRENT: 800/298; 435/235.1, 435/236, 435/69.3, 530/412, 536/23.72, 800/288, 800/317.3

APPL-NO: 8/ 687559
DATE FILED: November 18, 1996

PARENT-CASE:
This application is a Continuation-in-Part application of U.S. Ser. No. 08/192,477, filed Feb. 3,
1994, now abandoned.

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/US95/01467	February 3, 1995	WO95/21248	Aug 10, 1995	Nov 18, 1996	Nov 18, 1996

IN: Fitchen; John H., Beachy; Roger N.

AB: The invention describes an infectious modified Tobacco Mosaic Virus (TMV) virion
comprising a modified coat protein (CP) having a heterologous peptide inserted between amino
acid residues 154 and 155 of CP. Also described is an infectious TMV virion having a
modified movement protein (MP). The invention further describes nucleotide sequences
encoding the modified TMV virion with either a modified CP or modified MP, and methods for
producing the heterologous peptide in plants using the nucleotide sequences and modified
virions.

L9: Entry 15 of 52
File: USPT
Sep 21, 1999

DOCUMENT-IDENTIFIER: US 5955647 A
TITLE: Method for using tobacco mosaic virus to overproduce peptides and proteins

BSPR:
A method is provided for overexpression in plants of heterologous peptides of from about 5 to 20
amino acids as fusion proteins inserted near, but preferably not at the carboxy terminus of the
coat protein of tobacco mosaic virus using a modified cDNA infectious clone of TMV. Despite
insertion of the foreign peptide sequence into the viral coat protein, stable virions are
provided by this invention so that systemic infections is readily achieved in suitable plants. In
some instances, the method utilizes coinfection of the plant with 1) the infectious clone having
a modified CP gene, but a wild type movement protein (MP) gene and 2) a second TMV infectious
clone having a wild type coat protein gene and a MP gene that has been modified to render the
movement protein dysfunctional.

16. Document ID: US 5939541 A

L9: Entry 16 of 52
File: USPT
Aug 17, 1999

US-PAT-NO: 5939541
DOCUMENT-IDENTIFIER: US 5939541 A
TITLE: Method for enhancing expression of a foreign or endogenous gene product in plants
DATE-ISSUED: August 17, 1999

US-CL-CURRENT: 536/24.1; 435/320.1, 435/411, 435/468, 536/23.72, 800/287, 800/288

APPL-NO: 8/ 827575
DATE FILED: March 28, 1997

IN: Vance; Vicki B., Pruss; Gail J., Dawson; William O., Carrington; James, Marton;
Laszlo

AB: The present invention provides a method for enhancing the expression of genes in
plants by supplying a virally encoded booster sequence comprising the 5' proximal region of
the potyvirus genome to the plant. The booster sequence enhances the expression of foreign
genes or endogenous plant genes in plants by employing any known methodology of expressing
introduced genes in plants. The booster sequence may be used to enhance expression of any
gene, including foreign genes or endogenous plant genes, introduced by means of stable
transformation into the genome of the plant or introduced by expression from a plant viral
expression vector.

L9: Entry 16 of 52
File: USPT
Aug 17, 1999

DOCUMENT-IDENTIFIER: US 5939541 A
TITLE: Method for enhancing expression of a foreign or endogenous gene product in plants

DEPR:
The present Example sets forth an exemplary method for enhancing expression of an endogenous
plant gene or a foreign gene (or a portion of a foreign or endogenous gene) that has been
introduced to a plant as a fusion to a viral protein expressed from a viral vector. A viral
vector expressing a foreign gene or an endogenous plant sequence as a fusion to the coat protein
of the virus, such as the vector described in Sugiyama, Hamamoto, Takemoto, Watanabe, Okada,
"Systematic Production of Foreign Peptides on the Particle Surface of Tobacco Mosaic Virus," 359
FEBS Lett., 247 250 (1995), is one such example. The viral vector may be used to infect a
transgenic plant host that supplies the booster sequence via expression from stably incorporated
DNA copies of said booster sequence, for example the U-6B transgenic tobacco plants described
herein. The expression of the foreign peptides fused to the viral coat protein would be enhanced.

17. Document ID: US 5919457 A

L9: Entry 17 of 52
File: USPT
Jul 6, 1999

US-PAT-NO: 5919457
DOCUMENT-IDENTIFIER: US 5919457 A
TITLE: TXU-5/B53-PAP antiviral biotherapeutic agent for the treatment of AIDS
DATE-ISSUED: July 6, 1999

US-CL-CURRENT: 424/183.1; 424/160.1, 435/339.1, 435/70.21, 530/370, 530/379, 530/388.35,
530/389.4, 530/391.9

APPL-NO: 8/ 584966
DATE FILED: January 11, 1996

IN: Uckun; Fatih M.

AB: Immunoconjugates comprising the monoclonal antibody TXU-5/B53 linked to pokeweed
antiviral protein or bioactive subunits thereof are provided which are

effective for the
treatment of mammalian HIV infection.

L9: Entry 17 of 52
File: USPT
Jul 6, 1999

DOCUMENT-IDENTIFIER: US 5919457 A
TITLE: TXU-5/B53-PAP antiviral biotherapeutic agent for the treatment of AIDS

DEPR:
Pokeweed antiviral protein (PAP) is an antiviral agent isolated from the leaves or seeds of
Phytolacca americana (Irvin and Uckun, Pharmacology and Therapeutics 55: 279, 1992). PAP displays
broad-spectrum antiviral activity against plant viruses, herpes simplex virus, cytomegalovirus,
poliovirus, and influenza virus. Aron et al., Agents Chemotherapy, 17, 1032 (1980). In fact,
pokeweed antiviral protein was discovered due to its ability to inhibit the transmission of
tobacco mosaic virus (TMV) in plants and it was subsequently demonstrated that the purified
protein was equally effective against a number of other plant viruses. Tomlinson et al., J. Gen.
Virol., 22, 225 (1974).

18. Document ID: US 5907084 A

L9: Entry 18 of 52
File: USPT
May 25, 1999

US-PAT-NO: 5907084
DOCUMENT-IDENTIFIER: US 5907084 A
TITLE: Virus resistant or tolerant cells
DATE-ISSUED: May 25, 1999

US-CL-CURRENT: 800/279; 435/320.1, 435/411, 435/414, 536/23.1, 536/24.5, 800/280, 800/301

APPL-NO: 8/ 624581
DATE FILED: April 3, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9320548	October 6, 1993

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/EP94/03295	October 5, 1994	WO95/09920	Apr 13, 1995	Apr 3, 1996	Apr 3, 1996

IN: de Haan; Petrus Theodorus

AB: A nucleotide sequence comprising a transcriptional regulatory sequence and a
sequence contiguous therewith and under the transcriptional control thereof, which
contiguous sequence encodes an RNA which consists of a plurality of sub-sequences,
characterized in that at least two of the sub-sequences have the sequences of viral RNAs and
the RNA contains at least one translational stop codon located upstream of the 3' terminal
sub-sequence. It is preferred that at least one of the sub-sequences is in an anti-sense
configuration with respect to virus RNA, and that the contiguous sequence encodes mRNA. The
invention also includes, inter alia, the use of such a sequence in the generation of virus
resistant or tolerant plants, and such plants comprising the sequence.

L9: Entry 18 of 52
File: USPT
May 25, 1999

DOCUMENT-IDENTIFIER: US 5907084 A
TITLE: Virus resistant or tolerant cells

BSPR:
Numerous attempts have been made to engineer viral resistance into plants by inserting
DNA-containing vectors into acceptor plant tissue, which DNA is capable of encoding viral
proteins in the thus transformed plant. The viral protein may confer resistance to an invading
virus comprising a viral protein substantially the same as that encoded by the introduced DNA.
Other attempts at engineering virus resistance in plants use anti-sense RNA which relies on the
introduction of DNA encoding an RNA strand which is complementary to the RNA of an invading virus
and thus interferes with the replication thereof. Plants displaying a broad degree of reduced
susceptibility, i.e. to more than one viral type, or a greater degree of reduced susceptibility
to a particular virus type, are highly desirable.

DEPR:
(1). Multigene DNA constructs comprising at least one non-structural gene wherein the multigene
DNA is under the control of a single set of genetic regulatory elements. By "non-structural gene"
is meant a gene capable of coding for a viral RNA molecule which is substantially incapable of
encoding for a viral polypeptide or protein but which is nevertheless capable of conferring an
RNA mediated reduced susceptibility of a plant virus in plant cells. (2). Constructs according to
clause 1, wherein the at least one non-structural gene is a viral gene. (3). Multigene DNA
constructs comprising at least one non-structural gene wherein the multigene DNA constructs are
capable of giving rise to viral elements in plant cells which are capable of conferring a reduced
susceptibility to plant viruses in plant cells, and wherein the multigene DNA is under the
control of a single set of genetic regulatory elements. (4) Constructs according to clauses 2 to
3 comprising at least one viral non-structural gene and one viral structural gene. (5) Constructs
according to any one of clauses 2 to 4 comprising at least two non-structural genes and no viral
structural gene elements. (6). Constructs according to clause 5 comprising from 2 to 5 viral
non-structural genes. (7). Constructs according to any one of clauses 1 to 3

comprising DNA
capable of coding for viral RNA molecules of tospoviruses, potyviruses, potexviruses,
tobamoviruses, luteoviruses, cucumoviruses, bromoviruses, closteroviruses, tombusviruses, and
furoviruses. (8) Constructs according to clause 7, wherein the DNA codes for non-structural viral
RNA molecules of nucleocapsid proteins, viral coat proteins, and non-structural viral proteins.
(9). Plants comprising multigene DNA constructs of any one of clauses 1 to 3. (10). Plants
according to clause 9 selected from the group comprising tomatoes, peppers, melons, lettuces,
caulifowers, broccolis, cabbages, brussels sprouts, sugar beet, corn (maize), sweetcorn, onions,
carrots, leeks, cucumbers, tobacco's alfalfa's, aubergines, beets, broad beans, celery's,
chicory's, cow peas, endives, gourds, groundnuts, papayas, peas, peanuts, pineapples, potatoes,
safflowers, snap beans, soybeans, spinaches, squashes, sunflowers, water-melons, and sorghums.
(11). Plants according to clause 9 selected from the group ornamentals consisting essentially of
Impatiens, IBegonias, Petumias, Pelargoniums (geraniums), Violas, Cyclamens, Verbenas, Vincas,
Tagetes, Primulas, Saint Paulia's Ageratums, Amaranthuses, Anthirrhinums, Aquilegias,
Chrysanthemums, Cineraria, Clovers, Cosmos's, Cowpeas, Dahlia's, Daturas, Delphiniums, Gerbera's,
Gladioluses, Gloxinias, Hippeastrums, Mesembryanthemums, Salpiglossis, and Zinnias. (12). A
method for obtaining plants displaying a reduced susceptibility to viruses which comprises: (a)
inserting into the genome of a plant cell a DNA construct according to any one of clauses 1 to 8;
(b) obtaining transformed cells; and (c) regenerating from the transformed cells genetically
transformed plants.

19. Document ID: US 5874087 A

L9: Entry 19 of 52 File: USPT Feb 23, 1999

US-PAT-NO: 5874087
DOCUMENT-IDENTIFIER: US 5874087 A
TITLE: Modified plant viruses as vectors
DATE-ISSUED: February 23, 1999

US-CL-CURRENT: 424/199.1; 424/185.1, 424/186.1, 424/192.1, 424/202.1, 424/204.1, 435/235.1

APPL-NO: 8/ 471048
DATE FILED: June 6, 1995

PARENT-CASE:
This application is a division of application Ser. No. 08/137,032, filed as PCT/GB92/00589, Apr. 2, 1992.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	91 08386	April 19, 1991

IN: Lomonossoff; George Peter, Johnson; John Emil

AB: The invention relates to assembled particles of a plant virus containing a
predetermined foreign peptide as part of the coat protein of the virus, and a method for
their production. The foreign peptide is preferably a biologically functional peptide, the
biological application of which requires or is enhanced by presentation of the peptide in
association with a larger molecule or particle.

L9: Entry 19 of 52 File: USPT Feb 23, 1999

DOCUMENT-IDENTIFIER: US 5874087 A
TITLE: Modified plant viruses as vectors

ABPL:
The invention relates to assembled particles of a plant virus containing a predetermined foreign
peptide as part of the coat protein of the virus, and a method for their production. The foreign
peptide is preferably a biologically functional peptide, the biological application of which
requires or is enhanced by presentation of the peptide in association with a larger molecule or
particle.

BSPR:
This invention relates to the use of viruses as carriers (vectors) for the production or
presentation of foreign peptides. More particularly, the invention relates to the genetic
manipulation of viral nucleic acid by incorporation of foreign nucleic acid sequences which are
expressed as peptides in the virus particle (virion). In this specification the term "foreign",
as applied to a peptide or to the nucleic acid encoding therefor, signifies peptide or nucleic
acid sequences which are not native to the plant virus used as a vector. Such sequences can be
alternatively described as exogenous or heterologous sequences. The term "peptide" includes small
peptides and polypeptides.

BSPR:
The present invention utilises plant viruses as vector systems for the expression of foreign
nucleotide sequences ie nucleotide sequences (RNA or DNA) which are not present in plant viruses,
as found in Nature, and which in consequence code for peptides not normally found in any
naturally occurring plant virus.

BSPR:
The present invention comprises assembled particles of a plant virus containing a foreign
peptide. The plant viruses of the present invention are therefore modified forms of the native
viruses and for convenience will be referred to as modified viruses.

BSPR:
The foreign peptides which may be incorporated into plant viruses according to this invention may
be of highly diverse types and are subject only to the limitation that the nature and size of the
foreign peptide and the site at which it is placed in or on the virus particle do not interfere
with the capacity of the modified virus to assemble when cultured in vitro or in vivo. In broad
concept, modified viruses may be formed from any biologically useful peptides (usually
polypeptides) the function of which requires a particular conformation for its activity. This may

be achieved by association of the peptide with a larger molecule eg to improve its stability or
mode of presentation in a particular biological system. Examples of such peptides are peptide
hormones; enzymes; growth factors; antigens of protozoal, viral, bacterial, or fungal origin;
antibodies including anti-idiotypic antibodies; immunoregulators and cytokines eg interferons and
interleukins; receptors; adhesins; and parts or precursors of any of the foregoing types of
peptide. The peptide preferably contains more than 5 amino acids.

BSPR:
To produce modified plant virus particles in accordance with this invention the plant viral
nucleic acid is modified by introducing a nucleotide sequence coding for the foreign peptide eg
an animal virus antigen at that part of the plant viral genome which codes for an exposed portion
of the coat protein, infecting plants or plant cells with the modified viral nucleic acid, and
harvesting assembled particles of the modified virus. This procedure is best carried out by
direct manipulation of the DNA of the virus in the case of DNA viruses or by manipulation of a
cDNA corresponding to the RNA of an RNA virus. In the case of an RNA virus, an RNA transcript of
the modified DNA is usually prepared for inoculation of plant cells or preferably whole plants so
as to achieve a multiplication stage prior to the harvesting of assembled particles of the
modified virus. In the case of a DNA virus, the DNA itself is introduced into the plant. In this
way, the foreign peptide is initially expressed as part of the capsid protein and is thereby
produced as part of the whole virus particle. The peptide may thus be produced as a conjugate
molecule intended for use as such. Alternatively, the genetic modification of the virus may be
designed in order to permit release of the desired peptide by the application of appropriate
agents which will effect cleavage from the virus particle.

CLPR:
3. A method according to claim 1, which comprises (a) introducing a DNA sequence coding for the
foreign peptide into a cDNA corresponding to the plant virus RNA which codes for an exposed
portion of the plant virus coat protein, (b) producing from the thus modified cDNA an RNA
transcript thereof, (c) inoculating a member of the group consisting of plants, plant tissue,
plant cells, and protoplasts with the transcript, if necessary together with any other RNA
required for multiplication and assembly of whole virus particles in the plant material, and (d)
harvesting assembled particles of the virus.

CLPR:
6. A method according to claim 1, which comprises (a) introducing a DNA sequence coding for the
foreign peptide into a cDNA corresponding to the plant virus RNA which codes for an exposed
portion of the plant virus coat protein; (b) inoculating a member of the group consisting of
plants, plant tissue, plant cells, and protoplasts with the thus modified cDNA, if necessary
together with any other RNA required for multiplication and assembly of whole virus particles in
the plant material; and (c) harvesting assembled particles of the virus.

20. Document ID: US 5830887 A

L9: Entry 20 of 52 File: USPT Nov 3, 1998

US-PAT-NO: 5830887
DOCUMENT-IDENTIFIER: US 5830887 A
TITLE: Health supplements containing phyto-oestrogens, analogues or metabolites thereof
DATE-ISSUED: November 3, 1998

US-CL-CURRENT: 514/182; 424/423, 424/449, 424/451, 424/464, 424/757, 426/545, 514/25, 549/403,
549/406

APPL-NO: 8/ 338567
DATE FILED: January 12, 1995

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
AU	PL2511	May 19, 1992

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/AU93/00230	May 19, 1993	WO93/23069	Nov 25, 1993	Jan 12, 1995	Jan 12, 1995

IN: Kelly; Graham Edmund

AB: Compositions enriched with natural phyto-oestrogens or analogues thereof selected
from Genistein, Daidzein, Formononetin and Biochanin A. These may be used as food additives,
tablets or capsules for promoting health in cases of cancer, pre-menstrual syndrome,
menopause or hypercholesterolaemia.

L9: Entry 20 of 52 File: USPT Nov 3, 1998

DOCUMENT-IDENTIFIER: US 5830887 A
TITLE: Health supplements containing phyto-oestrogens, analogues or metabolites thereof

BSPR:
There are 3 principal classes of phyto-oestrogens, viz. isoflavones, lignans, and coumestans. The
isoflavones are thought to have a broad range of biological functions in plants, although these
are poorly understood. However, two particular functions are recognised--(a) as phyto-alexin or
stressor chemicals which are secreted by the plant in response to attack by parasites such as
insects, fungi, viruses, etc. and which display activity against these parasites, and (b)
chemicals which encourage colonisation of nitrogen-fixing bacteria on the roots of legumes. The

biological functions in plants of the lignans and coumestans is not generally understood.

21. Document ID: US 5824857 A

L9: Entry 21 of 52

File: USPT

Oct 20, 1998

US-PAT-NO: 5824857
DOCUMENT-IDENTIFIER: US 5824857 A
TITLE: Plant promoter
DATE-ISSUED: October 20, 1998

US-CL-CURRENT: 800/287; 435/410, 435/419, 536/23.4, 536/23.6, 536/24.1, 800/293, 800/320, 800/320.2

APPL-NO: 7/ 789738
DATE FILED: November 8, 1991

IN: Beachy; Roger N., Bhattacharyya; Maitrayee

AB: A genome length transcript promoter from a badnavirus, rice tungro bacilliform virus (RTBV), is disclosed and its DNA sequence provided. This promoter drives expression specifically in vascular tissues of plants. This promoter sequence may be utilized in a chimeric gene to drive the tissue specific expression of a foreign structural gene in vascular tissue of transgenic plants.

L9: Entry 21 of 52

File: USPT

Oct 20, 1998

DOCUMENT-IDENTIFIER: US 5824857 A
TITLE: Plant promoter

BSPR:
Even though providing constitutive expression of a gene in plants is often desirable, it is also desirable in some instances to direct expression of a gene to particular tissues in a plant. Some tissue specific plant promoters are known, such as those capable of directing expression preferentially in the fruit of a plant, but the genome length transcript, i.e. full length transcript or major transcript, promoters that have been obtained from double-stranded DNA plant viruses all display strong, constitutive expression patterns. Extensive structure analysis of the CaMV35S promoter sequence has identified domains within the viral promoter sequence that confer tissue specificity (Odell et al. 1985; Benfey et al. 1989; Fang et al. 1989), but the promoter sequence in its entirety is a constitutive promoter.

22. Document ID: US 5633434 A

L9: Entry 22 of 52

File: USPT

May 27, 1997

US-PAT-NO: 5633434
DOCUMENT-IDENTIFIER: US 5633434 A
TITLE: Transgenic plants displaying virus and phosphinothricin resistance
DATE-ISSUED: May 27, 1997

US-CL-CURRENT: 800/280; 435/193, 435/418, 435/419, 435/69.1, 504/207, 536/23.1, 536/23.2, 536/23.72, 800/300, 800/301

APPL-NO: 8/ 279706
DATE FILED: July 25, 1994

PARENT-CASE:
This application is a continuation-in-part, continuation of application Ser. No. 08/123,699, filed Sep. 17, 1993, now abandoned, which in turn is a continuation of application Ser. No. 07/910,329, filed as PCT/EP91/00130, Jan. 24, 1991, which in turn is abandoned.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	4003045	February 2, 1990

IN: Schneider; Rudolf, Donn; G unter, M ullner; Hubert

AB: Virus genes, for example coat protein genes, which bring about a reduction in the signs of infection by the corresponding virus or bring about virus resistance can be combined with herbicide-resistance genes for the transformation of plants., A combination of this type facilitates the selection of the transgenic plants. In addition, in practical field cultivation, the vitality of the plants is increased by the virus tolerance, and an improved plant protection is possible owing to the herbicide-resistance gene.

L9: Entry 22 of 52

File: USPT

May 27, 1997

DOCUMENT-IDENTIFIER: US 5633434 A
TITLE: Transgenic plants displaying virus and phosphinothricin resistance

23. Document ID: US 5618699 A

L9: Entry 23 of 52

File: USPT

Apr 8, 1997

US-PAT-NO: 5618699
DOCUMENT-IDENTIFIER: US 5618699 A
TITLE: Plant virus vector, plasmid, process for expression of foreign gene and process for obtaining foreign gene product
DATE-ISSUED: April 8, 1997

US-CL-CURRENT: 435/69.7; 435/235.1, 435/320.1, 435/69.1, 435/70.1, 536/23.72

APPL-NO: 8/ 313127
DATE FILED: November 30, 1994

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY
APPL-NO
APPL-DATE
JP
4-108628
March 31, 1992
JP
4-188744
June 22, 1992
JP
4-351970
December 8, 1992

PCT-DATA:
APPL-NO
DATE-FILED
PUB-NO
PUB-DATE
371-DATE
102(E)-DATE
PCT/JP93/00408
March 31, 1993
WO93/20217
Oct 14, 1993
Nov 30, 1994
Nov 30, 1994

IN: Hamamoto; Hiroshi, Sugiyama; Yoshinori, Nakagawa; Noriaki, Hashida; Eiji,
Tsuchimoto; Suguru, Nakanishi; Noriyuki, Matsunaga; Yuji, Okada; Yoshimi

AB: The present invention relates to a plant virus vector comprising a foreign gene
linked downstream of a coat protein gene of tobacco mosaic virus via a nucleotide sequence
which cause the readthrough, and a plasmid which is transcribed to provide the vector, as
well as a process for expression of a foreign gene in a plant by inoculating the plant with
the vector., In addition, the present invention relates to a process for efficiently
recovering a foreign gene product produced in a plant as virions.

L9: Entry 23 of 52
File: USPT
Apr 8, 1997

DOCUMENT-IDENTIFIER: US 5618699 A
TITLE: Plant virus vector, plasmid, process for expression of foreign gene and process for
obtaining foreign gene product

BSPR:
Since the present plant virus vector has a nucleotide sequence which causes readthrough, it
simultaneously produces both a wild type coat protein and a fused protein (i.e., a fused protein
comprising a desired protein or peptide derived from a foreign gene and the coat protein).
Therefore, virions normally result in systemic infection and expression of the foreign gene
throughout a whole plant.

24. Document ID: US 5589625 A

L9: Entry 24 of 52
File: USPT
Dec 31, 1996

US-PAT-NO: 5589625
DOCUMENT-IDENTIFIER: US 5589625 A
TITLE: Transgenic plants displaying multiple virus resistance and a process for their production
DATE-ISSUED: December 31, 1996

US-CL-CURRENT: 800/279; 435/418, 435/69.1, 800/301

APPL-NO: 8/ 374229
DATE FILED: January 18, 1995

PARENT-CASE:
This application is a Continuation-in-Part application of U.S. Ser. No. 07/965,343, filed Oct.
23, 1992, now abandoned.

FOREIGN-APPL-PRIORITY-DATA:
COUNTRY
APPL-NO
APPL-DATE
EP
92104676
March 18, 1992

IN: Saarma; Mart, Kelve; Merikke, Truve; Erkki, Teeri; Teemu

AB: This invention discloses transgenic plants, such as transgenic tobacco and
potato, having resistance to multiple viral taxonomic groups using parts of the 2,5A
oligoadenylate pathway. In particular, said plants are genetically engineered to contain a
DNA sequence encoding at least one polypeptide having a 2,5A synthetase activity. By this
means a step in the 2,5A oligoadenylate pathway heretofore believed to be missing in all
plants is provided so that viral infection in the transgenic plants is inhibited via a 2,5A
dependent endonuclease. Moreover, this invention relates to a process for the production of
said transgenic plants by transfection with a genetically engineered DNA sequence encoding
at least one polypeptide having a 2,5A synthetase activity.

L9: Entry 24 of 52
File: USPT
Dec 31, 1996

DOCUMENT-IDENTIFIER: US 5589625 A
TITLE: Transgenic plants displaying multiple virus resistance and a process for their production

BSPR:
In summary, the prior art does not permit the conclusion that the 2,5A oligoadenylate pathway can
be used as a basis for constructing transgenic plants displaying multiple virus resistance. Thus,
the technical problem of the present invention is to provide a transgenic plant displaying
resistance to multiple virus taxonomic groups using parts of the 2,5A oligoadenylate pathway.

BSPR:
One object of the present invention relates to a transgenic plant displaying multiple virus
resistance which contains a genetically engineered DNA sequence encoding at least one polypeptide
having a 2,5A synthetase activity, wherein said polypeptide upon expression is capable of
activating an endonuclease causing degradation of viral RNA.

BSPR:
In the present invention a transgenic plant is provided that displays resistance to multiple
viral taxonomic groups. The transgenic plant contains a genetically engineered DNA sequence
encoding at least one polypeptide having a 2,5A synthetase activity, wherein the polypeptide
activates an endonuclease contained within the plant, thereby causing degradation of viral RNA so
as to prevent or lessen infection. The invention also discloses propagating material derived from
such transgenic plants.

DEPR:
This invention provides a method for obtaining transgenic plants displaying resistance to
multiple viral taxonomic groups by restoring to said plants a functioning 2,5A oligoadenylate
pathway. In particular, plants containing parts of the 2,5A oligoadenylate pathway are
genetically engineered to contain a DNA sequence encoding at least one polypeptide having a 2,5A
synthetase activity. By this means a step in the 2,5A oligoadenylate pathway heretofore believed
to be missing in all plants is provided, so that viral infection in the transgenic plants is
inhibited via a 2,5A dependent endonuclease. Moreover, this invention relates to a process for
the production of said transgenic plants by transfection with a genetically engineered DNA
sequence encoding at least one polypeptide having a 2,5A synthetase activity.

DEPR:
A further object of the present invention is a propagating material derived from a transgenic
plant displaying resistance to multiple viral taxonomic groups.

DEPR:
A further object of the present invention is a process for the production of a transgenic plant
displaying resistance to multiple viral taxonomic virus groups comprising the introduction of a
genetically engineered DNA sequence encoding at least one polypeptide having a 2,5A synthetase
activity, into the genetic material of a suitable plant.

DEPR:
A further object of the present invention is the use of a genetically engineered DNA sequence
encoding at least one polypeptide having a 2,5A synthetase activity, for the production of a
transgenic plant displaying resistance to multiple viral taxonomic groups.

CLPR:
1. A transgenic plant that utilizes the 2,5A oligoadenylate pathway and displays resistance to
multiple plant viral taxonomic groups comprising a genetically engineered DNA sequence encoding
at least one polypeptide having a 2,5A synthetase activity, wherein said polypeptide activates an
endonuclease causing degradation of viral RNA.

CLPR:
17. A transgenic plant cell that utilizes the 2,5A oligoadenylate pathway and displays resistance
to multiple plant virus taxonomic groups comprising a genetically engineered DNA sequence
encoding at least one polypeptide having a 2,5A synthetase activity.

CLPR:
23. A plant cell displaying resistance to multiple plant virus taxonomic groups descended from
the plant cell of claim 17 and comprising said 2,5A synthetase activity.

ORPL:
Truve, et al., Principles and background for the construction of transgenic plants displaying
multiple virus resistance, Arch Virol (1994) [Suppl] 9:41-50.

25. Document ID: US 5583021 A

L9: Entry 25 of 52
File: USPT
Dec 10, 1996

US-PAT-NO: 5583021
DOCUMENT-IDENTIFIER: US 5583021 A
TITLE: Production of virus resistant plants
DATE-ISSUED: December 10, 1996

US-CL-CURRENT: 800/280; 435/252.3, 435/320.1, 435/418, 435/419, 435/468, 435/469, 435/470,
536/23.72, 800/301

APPL-NO: 8/ 271829
DATE FILED: July 7, 1994

PARENT-CASE:
CROSS REFERENCE TO RELATED APPLICATION This application is a continuation-in-part of application
Ser. No. 07/838,509, filed Feb. 19, 1992, now abandoned.

IN: Dougherty; William G., Lindbo; John A.

AB: A method of suppressing virus gene expression in plants using untranslatable plus
sense RNA is disclosed. The method is useful for the production of plants that are resistant
to virus infection.

L9: Entry 25 of 52
File: USPT
Dec 10, 1996

DOCUMENT-IDENTIFIER: US 5583021 A
TITLE: Production of virus resistant plants

DEPR:
All transgenic plant lines tested displayed wild-type sensitivities to PVY and to cucumber mosaic
virus. Typical necrotic local lesions formed when the 2RC lines were inoculated with tobacco
mosaic virus (data not shown).

DEPR:
While not wishing to be bound by speculation, it is suggested that the highly resistant and
recovery phenotypes of the 2RC lines can be accommodated by the following working model. This
model suggests the existence of an inducible, cytoplasmic-based, cellular activity that degrades
specific RNA sequences. In transgenic plants displaying the recovery phenotype, this RNA
degradation system is activated only after virus infection and by the additive level of transgene
RNA and viral RNA present. In contrast, the highly resistant lines may

have the activity fully
induced by the transgene transcript. The failure of a rootstock from a highly resistant line to
induce a scion from a susceptible line in grafting studies suggests the activity is a programmed
cell response not induced via a diffusible signaling molecule as is the case with systemically
acquired resistance (Kuc 1982; Ward et al., 1991). Once the antiviral system is activated, it is
absolute in its efficacy against TEV, yet it is not effective against the closely related virus
PVY.

DEPR:
The engineered resistance was TEV specific. None of the lines tested displayed any resistance to
PVY or tomato spotted wilt virus (TSWV) as a limited number of plants were naturally infected
with these viruses in the plot over the 2 year study.

DEPV:
Susceptible plant: A plant that supports viral replication and displays virus-induced symptoms.

26. Document ID: US 5510253 A

L9: Entry 26 of 52
File: USPT
Apr 23, 1996

US-PAT-NO: 5510253
DOCUMENT-IDENTIFIER: US 5510253 A
TITLE: Plants resistant to infection by PLRV
DATE-ISSUED: April 23, 1996

US-CL-CURRENT: 800/279; 435/320.1, 435/69.1, 536/23.72, 800/301

APPL-NO: 8/ 326297
DATE FILED: October 20, 1994

PARENT-CASE:
This is a Continuation of application Ser. No. 08/012,688, filed Feb. 3, 1993 now abandoned.

IN: Mitsky; Timothy A., Hemenway; Cynthia L., Tumer; Nilgun E.

AB: An isolated DNA sequence which codes for a PLRV replicase gene is disclosed
herein. A method for providing resistance to infection by a virus by expressing a replicase
gene in plants is also disclosed, as are transgenic potato plants and tubers containing the
replicase gene.

L9: Entry 26 of 52
File: USPT
Apr 23, 1996

DOCUMENT-IDENTIFIER: US 5510253 A
TITLE: Plants resistant to infection by PLRV

DEPR:
PLRV is not mechanically transmissible. Spread of PLRV from infected plants to uninfected plants
can only be accomplished by aphids. This is the reason that insecticide application is currently
necessary for controlling this disease. Virus resistant potatoes will no longer require
insecticides to control aphids. Potato cultivars which are resistant to PLRV often display no or
reduced titers of PLRV and the virus is not as easily transmitted from these plants to other
plants by aphids. This characteristic is of commercial significance because it limits the
potential for virus epidemics in the field.

27. Document ID: US 5376675 A

L9: Entry 27 of 52
File: USPT
Dec 27, 1994

US-PAT-NO: 5376675
DOCUMENT-IDENTIFIER: US 5376675 A
TITLE: Control of parasitic nematodes (A)
DATE-ISSUED: December 27, 1994

US-CL-CURRENT: 514/425

APPL-NO: 8/ 070391
DATE FILED: August 30, 1993

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9026271	December 3, 1990

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/GB91/02111	November 28, 1991	WO92/09202	Jun 11, 1992	Aug 30, 1983	Aug 30, 1993

IN: Alphey; Thomas J. W., Birch; Andrew N. E., Fellows; Linda E., Robertson; Walter
M.

AB: The use of the compound 2R,5R-dihydroxymethyl-3R,4R-dihydroxypyrrolidine (DMDP)
##STR1## or an acid addition salt thereof in controlling diseases caused by parasitic
nematodes in plants or mammals.

L9: Entry 27 of 52
File: USPT
Dec 27, 1994

DOCUMENT-IDENTIFIER: US 5376675 A
TITLE: Control of parasitic nematodes (A)

BSPR:

DMDP displays its properties against a wide range of nematodes affecting plants, e.g. root-knot
nematodes, cyst nematodes and virus-transmitting nematodes. Of particular note is its activity
against the crop-damaging nematodes of the following genera: Meloidogyne, Globodera, Heterodera,
Radopholus, Pratylenchus, Hirschmanniella, Scutellonema, Helicotylenchus, Tylenchus, Rotylenchus,
Ditylenchus, Longidorus, Xiphinema. With regard to nematodes which infest mammals, DMDP is active
against a wide range of helminthic nematodes, especially those of the following genera:
Haemonchus, Teladorsagia, Nematodirus, Trichostrongylus, Dictyocaulus and Cooperia, particularly
the species Haemonchus contortus and Teladorsagia circumcincta (previously classified as
Ostertagia circumcincta).

28. Document ID: US 5185253 A

L9: Entry 28 of 52 File: USPT Feb 9, 1993

US-PAT-NO: 5185253
DOCUMENT-IDENTIFIER: US 5185253 A
TITLE: Virus resistant plants
DATE-ISSUED: February 9, 1993

US-CL-CURRENT: 800/279; 435/69.1, 435/70.1, 800/294

APPL-NO: 7/ 606641
DATE FILED: October 31, 1990

PARENT-CASE:
This application is a division of U.S. Ser. No. 07/302,498 filed Jan. 27, 1989, now U.S. Pat. No.
4,970,168.

IN: Tumer; Nilgun E.

AB: Transgenic plants are disclosed which are resistant to virus infection by Potato
Virus X and Potato Virus Y. Plant genes and transformation vectors are also disclosed.
Potato plants, for example, Russet Burbank variety, are made resistant to dual infection by
Potato Virus X and Potato Virus Y by transforming the plant to express the coat proteins of
the two viruses.

L9: Entry 28 of 52 File: USPT Feb 9, 1993

DOCUMENT-IDENTIFIER: US 5185253 A
TITLE: Virus resistant plants

DEPR:
Accordingly, the present invention provides a method for genetically engineering plants by
insertion into the plant genome a DNA construct containing, inter alia, a small portion of the
viral genome of PVX and PVY such that the engineered plants display resistance to the plant
virus.

29. Document ID: US 4970168 A

L9: Entry 29 of 52 File: USPT Nov 13, 1990

US-PAT-NO: 4970168
DOCUMENT-IDENTIFIER: US 4970168 A

TITLE: Virus-resistant plants

DATE-ISSUED: November 13, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tumer; Nilgun E.	Chesterfield	MO	N/A	N/A

US-CL-CURRENT: 800/301; 435/252.3, 435/252.33, 435/320.1, 435/417, 435/71.1

IN: Tumer; Nilgun E.

L9: Entry 29 of 52 File: USPT Nov 13, 1990

DOCUMENT-IDENTIFIER: US 4970168 A
TITLE: Virus-resistant plants

DEPR:
Accordingly, the present invention provides a method for genetically engineering plants by
insertion into the plant genome a DNA construct containing, inter alia, a small portion of the
viral genome of PVX and PVY such that the engineered plants display resistance to the plant
virus.

30. Document ID: JP 05328977 A

L9: Entry 30 of 52 File: JPAB Dec 14, 1993

PUB-NO: JP405328977A
DOCUMENT-IDENTIFIER: JP 05328977 A
TITLE: PLANT VIRUS VECTOR AND PLASMID AND METHOD FOR ALLOWING TO EXPRESS FOREIGN GENE IN PLANT

PUBN-DATE: December 14, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
HAMAMOTO, HIROSHI	
SUGIYAMA, YOSHINOBU	
NAKANISHI, NORIYUKI	
NAKAGAWA, NORIAKI	

TSUCHIMOTO, TAKU
HASHIDA, HIDEJI
MATSUNAGA, YUJI
OKADA, YOSHIMI

INT-CL (IPC): C12N 15/62; C12N 15/83; C12P 21/02

IN: HAMAMOTO, HIROSHI, SUGIYAMA, YOSHINOBU, NAKANISHI, NORIYUKI, NAKAGAWA, NORIAKI, TSUCHIMOTO, TAKU, HASHIDA, HIDEJI, MATSUNAGA, YUJI, OKADA, YOSHIMI

L9: Entry 30 of 52

File: JPAB

Dec 14, 1993

DOCUMENT-IDENTIFIER: JP 05328977 A
TITLE: PLANT VIRUS VECTOR AND PLASMID AND METHOD FOR ALLOWING TO EXPRESS FOREIGN GENE IN PLANT

FPAR:
CONSTITUTION: A plant virus vector is characterized in that a foreign gene is connected to the downstream of an exodermis protein gene of a plant virus through a base sequence inducing a read-through. The exodermis protein virus is preferably the gene of tobamo virus, etc. Examples of the foreign gene includes a peptide gene having pharmacological and physiological activities, a protein gene giving stress resistance and resistance against diseases and pests to plants, and a protein gene for changing the shapes and flower colors of plants. When the virus is RNA, the plant virus vector is obtained by inserting the cDNA of a plant RNA virus into the downstream of a promoter of a plasmid having the promoter for transcription in vitro, inserting a foreign gene into the downstream of the exodermis protein gene originated from the plant virus through a base sequence inducing a read-through, and subsequently producing the RNA by a transcription reaction in vitro.

31. Document ID: WO 9911806 A1

L9: Entry 31 of 52

File: EPAB

Mar 11, 1999

PUB-NO: WO009911806A1
DOCUMENT-IDENTIFIER: WO 9911806 A1
TITLE: PATHOGEN-RESISTANT TRANSGENIC PLANTS AND METHODS OF MAKING

PUBN-DATE: March 11, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
WANG, CHUNLIN	N/A

INT-CL (IPC): C12N 15/82; C12N 15/53; C12N 9/02; A01H 5/00
EUR-CL (EPC): C12N015/82; A01N063/02, C12N015/82 , C12N015/82

IN: WANG, CHUNLIN

L9: Entry 31 of 52

File: EPAB

Mar 11, 1999

DOCUMENT-IDENTIFIER: WO 9911806 A1
TITLE: PATHOGEN-RESISTANT TRANSGENIC PLANTS AND METHODS OF MAKING

FPAR:
The present invention provides pathogen-resistant transgenic plants and methods of making the plants. The transgenic plants display enhanced resistance to a variety of fungal, bacterial and viral plant pathogens due to expression of a gene that increases the unsaturated fatty acid content of the plant's cells, as compared with an equivalent, but non-transformed plant. The preferred embodiment of the invention is a plant expressing a heterologous DELTA -9 desaturase gene from yeast, which particularly increases cytosolic quantities of 16:1, 16:2 and 18:1 fatty acids.

32. Document ID: US 5874087 A

L9: Entry 32 of 52

File: EPAB

Feb 23, 1999

PUB-NO: US005874087A
DOCUMENT-IDENTIFIER: US 5874087 A
TITLE: Modified plant viruses as vectors

PUBN-DATE: February 23, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
LOMONOSSOFF, GEORGE PETER	GB
JOHNSON, JOHN EMIL	US

INT-CL (IPC): A61K 39/00; A61K 39/12; C12N 7/01
EUR-CL (EPC): C12N015/82

IN: LOMONOSSOFF, GEORGE PETER, JOHNSON, JOHN EMIL

L9: Entry 32 of 52

File: EPAB

Feb 23, 1999

DOCUMENT-IDENTIFIER: US 5874087 A
TITLE: Modified plant viruses as vectors

FPAR:
The invention relates to assembled particles of a plant virus containing a predetermined foreign peptide as part of the coat protein of the virus, and a method for their production. The foreign peptide is preferably a biologically functional peptide, the biological

application of which
requires or is enhanced by presentation of the peptide in association with a larger molecule or
particle.

33. Document ID: WO 9856933 A1

L9: Entry 33 of 52
File: EPAB
Dec 17, 1998

PUB-NO: WO009856933A1
DOCUMENT-IDENTIFIER: WO 9856933 A1
TITLE: POLYPEPTIDE PRESENTATION SYSTEM

PUBN-DATE: December 17, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
LOMONOSSOFF, GEORGE PETER	GB
TAYLOR, KATHRYN MAY	GB

INT-CL (IPC): C12N 15/82; C12N 15/41; C07K 14/095; C12N 7/04; A61K 39/125
EUR-CL (EPC): C07K014/095; C12N015/82, C12N015/82

IN: LOMONOSSOFF, GEORGE PETER, TAYLOR, KATHRYN MAY

L9: Entry 33 of 52
File: EPAB
Dec 17, 1998

DOCUMENT-IDENTIFIER: WO 9856933 A1
TITLE: POLYPEPTIDE PRESENTATION SYSTEM

FPAR:
Disclosed are nucleic acid constructs comprising a sequence encoding a plant viral coat protein
(e.g. the S-peptide of CPMV) containing a foreign or heterologous peptide insert (e.g. an epitope
for vaccine use) wherein the said coat protein has been modified such as to reduce its ability to
effect nucleic acid packaging within viral particles. The modification is preferably at the
C-terminus. Also disclosed are corresponding nucleic acid preparations, plus methods, processes
and other materials (e.g. plants, virus particles, and compositions) based on the nucleic acids.

34. Document ID: US 5633434 A

L9: Entry 34 of 52
File: EPAB
May 27, 1997

PUB-NO: US005633434A
DOCUMENT-IDENTIFIER: US 5633434 A
TITLE: Transgenic plants displaying virus and phosphinothricin resistance

PUBN-DATE: May 27, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
SCHNEIDER, RUDOLF	DE
DONN, GUENTER	DE
MUELLNER, HUBERT	DE

INT-CL (IPC): C12N 5/10; C12N 15/11; C12N 15/33; A01H 5/00

IN: SCHNEIDER, RUDOLF, DONN, GUENTER, MUELLNER, HUBERT

L9: Entry 34 of 52
File: EPAB
May 27, 1997

DOCUMENT-IDENTIFIER: US 5633434 A
TITLE: Transgenic plants displaying virus and phosphinothricin resistance

35. Document ID: US 5589625 A

L9: Entry 35 of 52
File: EPAB
Dec 31, 1996

PUB-NO: US005589625A
DOCUMENT-IDENTIFIER: US 5589625 A
TITLE: Transgenic plants displaying multiple virus resistance and a process for their production

PUBN-DATE: December 31, 1996

INVENTOR-INFORMATION:

NAME	COUNTRY
SAARMA, MART	FI
KELVE, MERIKKE	EE
TRUVE, ERKKI	EE
TEERI, TEEMU	FI

INT-CL (IPC): A01H 5/00; C12N 15/82
EUR-CL (EPC): C12N009/12; C12N015/82

IN: SAARMA, MART, KELVE, MERIKKE, TRUVE, ERKKI, TEERI, TEEMU

L9: Entry 35 of 52
File: EPAB
Dec 31, 1996

DOCUMENT-IDENTIFIER: US 5589625 A
TITLE: Transgenic plants displaying multiple virus resistance and a process for their production

36. Document ID: WO 9640948 A2

L9: Entry 36 of 52 File: EPAB Dec 19, 1996

PUB-NO: WO009640948A2
DOCUMENT-IDENTIFIER: WO 9640948 A2
TITLE: RESISTANCE TO VIRUSES AND VIROIDS IN TRANSGENIC PLANT AND ANIMAL HOSTS EXPRESSING dsRNA-BINDING PROTEIN

PUBN-DATE: December 19, 1996

INVENTOR-INFORMATION:

NAME	COUNTRY
ROTH, DON ALLEN	N/A
LANGLAND, JEFFREY OLAF	N/A

INT-CL (IPC): C12N 15/82; C12N 15/34; C12N 15/85; A61K 38/16; A61K 48/00; A01N 63/02; A01H 5/00
EUR-CL (EPC): A01K067/027; C07K014/07, C07K014/14 , C12N015/82

IN: ROTH, DON ALLEN, LANGLAND, JEFFREY OLAF

L9: Entry 36 of 52 File: EPAB Dec 19, 1996

DOCUMENT-IDENTIFIER: WO 9640948 A2
TITLE: RESISTANCE TO VIRUSES AND VIROIDS IN TRANSGENIC PLANT AND ANIMAL HOSTS EXPRESSING dsRNA-BINDING PROTEIN

FPAR:
The invention provides a method for imparting resistance in animals to viruses, and in plants to viruses and viroids, that express double-stranded RNA-like structures (dsRNAs). This method enables the binding of pathogenic dsRNAs during the infection process by expression of dsRNA-binding protein in transgenic animal and plant hosts, thus interrupting the infection cycle and inhibiting disease. The presence of a dsRNA-binding protein in a transgenic host renders the transgenic host resistant to the phenotypic symptoms of viral infection and/or decreased pathogen replication. Accordingly, the present invention provides a genetically engineered animal and plant, stably transformed to express a dsRNA-binding protein, such that the transgenic host displays resistance to virus and/or viroid challenge.

37. Document ID: WO 9612028 A1

L9: Entry 37 of 52 File: EPAB Apr 25, 1996

PUB-NO: WO009612028A1
DOCUMENT-IDENTIFIER: WO 9612028 A1
TITLE: PRODUCTION OF PEPTIDES IN PLANTS AS VIRAL COAT PROTEIN FUSIONS

PUBN-DATE: April 25, 1996

INVENTOR-INFORMATION:

NAME	COUNTRY
TURPEN, THOMAS H	N/A
REINL, STEPHEN J	N/A
GRILL, LAURENCE K	N/A

INT-CL (IPC): C12N 15/82; C12N 15/40; C12N 15/62; C12N 7/01; C12N 5/10
EUR-CL (EPC): C07K014/08; C07K014/445, C12N015/82 , C12N015/82 , C12N015/82

IN: TURPEN, THOMAS H, REINL, STEPHEN J, GRILL, LAURENCE K

L9: Entry 37 of 52 File: EPAB Apr 25, 1996

DOCUMENT-IDENTIFIER: WO 9612028 A1
TITLE: PRODUCTION OF PEPTIDES IN PLANTS AS VIRAL COAT PROTEIN FUSIONS

FPAR:
The present invention relates to foreign peptide sequences fused to recombinant plant viral structural proteins and a method of their production. Fusion proteins are economically synthezised in plants at high levels by biologically contained tobamoviruses. The fusion proteins of the invention have many uses. Such uses include use as antigens for inducing the production of antibodies having desired binding properties, e.g., protective antibodies, or for use as vaccine antigens for the induction of protective immunity, including immunity against parasitic infections.

38. Document ID: WO 9602649 A1

L9: Entry 38 of 52 File: EPAB Feb 1, 1996

PUB-NO: WO009602649A1
DOCUMENT-IDENTIFIER: WO 9602649 A1
TITLE: MODIFIED PLANT VIRUSES AS VECTORS OF HETEROLOGOUS PEPTIDES

PUBN-DATE: February 1, 1996

INVENTOR-INFORMATION:
NAME COUNTRY
LOMONOSSOFF, GEORGE PETER GB

INT-CL (IPC): C12N 15/40; C12N 15/41; C12N 15/42; C12N 15/49; C12N 15/62; C12N 7/01; A61K 39/12
EUR-CL (EPC): C07K014/08; C07K014/09, C07K014/095 , C07K014/16 , C12N015/62 , C12N015/82 , C12N015/82 , C12N015/82

IN: LOMONOSSOFF, GEORGE PETER

L9: Entry 38 of 52
File: EPAB
Feb 1, 1996

DOCUMENT-IDENTIFIER: WO 9602649 A1
TITLE: MODIFIED PLANT VIRUSES AS VECTORS OF HETEROLOGOUS PEPTIDES

FPAR:
CHG DATE=19990617 STATUS=O>The invention relates to assembled particles of a plant virus
containing a foreign peptide insert in the coat protein of the virus. The site of the insert is
free from direct sequence repeats flanking the insert. The invention also relates to a method of
production of the particles and their use, in particular in vaccines.

39. Document ID: WO 9416087 A1

L9: Entry 39 of 52
File: EPAB
Jul 21, 1994

PUB-NO: WO009416087A1
DOCUMENT-IDENTIFIER: WO 9416087 A1
TITLE: PLANT VIRUS-RESISTANT TRANSGENIC PLANTS AND METHOD FOR PRODUCING SAME

PUBN-DATE: July 21, 1994

INVENTOR-INFORMATION:
NAME COUNTRY
LAGAVRE, THIERRY FR
DURAND-TARDIF, MYLENE FR
CASSE-DELBART, FRANCINE FR
ROBAGLIA, CHRISTOPHE FR

INT-CL (IPC): C12N 15/82; C12N 15/40; C12N 15/57; C12N 15/54; A01N 63/00; A01H 5/00
EUR-CL (EPC): C07K014/08; C12N009/12, C12N009/50 , C12N015/82

IN: LAGAVRE, THIERRY, DURAND-TARDIF, MYLENE, CASSE-DELBART, FRANCINE, ROBAGLIA, CHRISTOPHE

L9: Entry 39 of 52
File: EPAB
Jul 21, 1994

DOCUMENT-IDENTIFIER: WO 9416087 A1
TITLE: PLANT VIRUS-RESISTANT TRANSGENIC PLANTS AND METHOD FOR PRODUCING SAME

FPAR:
A potyvirus-resistant plant having in its genome one or more DNA fragments expressing transcripts
corresponding to a protein or protein fraction of a donor virus, e.g. a protein involved in the
formation of a potyvirus replication complex, a protein involved in the transport of a potyvirus
between cells, or a protein having a similarity with the cleavage sites of potyvirus viral
proteins. A method for producing plant virus-resistant plants comprises inserting vectors from a
donor virus complementary cDNA libray into cells or tissue fragments from said plants, and
selecting plants displaying plant virus resistance.

40. Document ID: WO 9319187 A1

L9: Entry 40 of 52
File: EPAB
Sep 30, 1993

PUB-NO: WO009319187A1
DOCUMENT-IDENTIFIER: WO 9319187 A1
TITLE: TRANSGENIC PLANTS DISPLAYING MULTIPLE VIRUS RESISTANCE AND A PROCESS FOR THEIR PRODUCTION

PUBN-DATE: September 30, 1993

INVENTOR-INFORMATION:
NAME COUNTRY
SAARMA, MART FI
KELVE, MERIKKE @@
TRUVE, ERKKI @@
TEERI, TEEMU FI

US-CL-CURRENT: 800/298; 800/FOR.102
INT-CL (IPC): A01H 5/00; A01N 63/00; C12N 15/54; C12N 15/82
EUR-CL (EPC): C12N009/12; C12N015/82

IN: SAARMA, MART, KELVE, MERIKKE, TRUVE, ERKKI, TEERI, TEEMU

L9: Entry 40 of 52
File: EPAB
Sep 30, 1993

DOCUMENT-IDENTIFIER: WO 9319187 A1
TITLE: TRANSGENIC PLANTS DISPLAYING MULTIPLE VIRUS RESISTANCE AND A PROCESS FOR THEIR PRODUCTION

FPAR:
CHG DATE=19990617 STATUS=O>This invention relates to transgenic plants displaying multiple virus
resistance using parts of the 2,5A oligoadenylate pathway. In particular, said transgenic plants
contain a genetically engineered DNA sequence encoding at least one polypeptide having a 2,5A
synthetase activity. Moreover, this invention relates to a process for the production of said
transgenic plants and to the use of said genetically engineered DNA sequence.

41. Document ID: WO 9218618 A1

L9: Entry 41 of 52
File: EPAB
Oct 29, 1992

PUB-NO: WO009218618A1
DOCUMENT-IDENTIFIER: WO 9218618 A1
TITLE: MODIFIED PLANT VIRUSES AS VECTORS

PUBN-DATE: October 29, 1992

INVENTOR-INFORMATION:

NAME	COUNTRY
LOMONOSSOFF, GEORGE PETER	GB
JOHNSON, JOHN EMIL	US

INT-CL (IPC): A61K 39/12; A61K 39/125; A61K 39/135; A61K 39/21; C12N 7/01; C12N 15/83
EUR-CL (EPC): C12N015/62; C07K014/08, C07K014/09 , C07K014/095 , C07K014/16

IN: LOMONOSSOFF, GEORGE PETER, JOHNSON, JOHN EMIL

L9: Entry 41 of 52
File: EPAB
Oct 29, 1992

DOCUMENT-IDENTIFIER: WO 9218618 A1
TITLE: MODIFIED PLANT VIRUSES AS VECTORS

FPAR:
The invention relates to assembled particles of a plant virus containing a predetermined foreign
peptide as part of the coat protein of the virus, and a method for their production. The foreign
peptide is preferably a biologically functional peptide, the biological application of which
requires or is enhanced by presentation of the peptide in association with a larger molecule or
particle.

42. Document ID: EP 428881 A1

L9: Entry 42 of 52
File: EPAB
May 29, 1991

PUB-NO: EP000428881A1
DOCUMENT-IDENTIFIER: EP 428881 A1
TITLE: RNA with endonuclease and antisense activity, its production and use.

PUBN-DATE: May 29, 1991

INVENTOR-INFORMATION:

NAME	COUNTRY
MUELLNER, HUBERT DR	DE
SCHNEIDER, RUDOLF DR	DE
UHLMANN, EUGEN DR	DE
UIJTEWAAL, BERNARDUS DR	NL
ECKES, PETER DR	DE

INT-CL (IPC): A01H 5/00; A01N 57/16; C12N 5/10; C12N 9/00; C12N 15/11
EUR-CL (EPC): C12N015/11; C12N009/00, C12N015/82

IN: MUELLNER, HUBERT DR, SCHNEIDER, RUDOLF DR, UHLMANN, EUGEN DR, UIJTEWAAL, BERNARDUS DR, ECKES, PETER DR

L9: Entry 42 of 52
File: EPAB
May 29, 1991

DOCUMENT-IDENTIFIER: EP 428881 A1
TITLE: RNA with endonuclease and antisense activity, its production and use.

FPAR:
Host cells can be transformed so that they express ribozyme RNA and antisense RNA, which are
linked together in the loop of the ribozyme. The RNA molecules can, for example, be complementary
to a particular viral RNA. Plants transformed with genes coding for such RNA display
significantly improved defences against viruses.

43. Document ID: EP 421376 A1

L9: Entry 43 of 52
File: EPAB
Apr 10, 1991

PUB-NO: EP000421376A1
DOCUMENT-IDENTIFIER: EP 421376 A1
TITLE: Multifunctional RNA with self-processing activity, its production and use.

PUBN-DATE: April 10, 1991

INVENTOR-INFORMATION:
NAME

COUNTRY

MUELLNER, HUBERT DR
DE

UHLMANN, EUGEN DR
DE

ECKES, PETER DR
DE

SCHNEIDER, RUDOLF DR
DE

UIJTEWAAL, BERNARDUS DR
NL

US-CL-CURRENT: 435/183
INT-CL (IPC): A01H 5/00; A01N 57/16; C12N 5/10; C12N 9/00; C12N 15/11
EUR-CL (EPC): C12N015/11; C12N009/00, C12N015/82

IN: MUELLNER, HUBERT DR, UHLMANN, EUGEN DR, ECKES, PETER DR, SCHNEIDER, RUDOLF DR, UIJTEWAAL, BERNARDUS DR

L9: Entry 43 of 52
File: EPAB
Apr 10, 1991

DOCUMENT-IDENTIFIER: EP 421376 A1
TITLE: Multifunctional RNA with self-processing activity, its production and use.

FPAR:
Host cells can be transformed so that they express ribozyme RNA and antisense RNA which are
connected together via a spacer. The RNA molecules can be complementary, for example, to a
particular viral RNA. Plants which are transformed with genes coding for such RNA display a
significantly improved defence against viruses.

44. Document ID: AU 200036183 A, WO 200053780 A2

L9: Entry 44 of 52
File: DWPI
Sep 28, 2000

DERWENT-ACC-NO: 2000-594328
DERWENT-WEEK: 200067
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TITLE: Multiple component RNA vector system for producing foreign RNAs, peptides and proteins in
plants, comprises RNA virus-derived RNA replicons and helper viruses

INVENTOR: DAWSON, W O; LEWANDOWSKI, D J ; POGUE, G P ; TURPEN, T H

PRIORITY-DATA: 1999US-0265575 (March 9, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 200036183 A	September 28, 2000	N/A	000	C12N015/79
WO 200053780 A2	September 14, 2000	E	047	C12N015/79

INT-CL (IPC): C12N 15/79; C12N 15/82; C12N 15/86

IN: DAWSON, W O, LEWANDOWSKI, D J, POGUE, G P, TURPEN, T H

L9: Entry 44 of 52
File: DWPI
Sep 28, 2000

DERWENT-ACC-NO: 2000-594328
DERWENT-WEEK: 200067
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Multiple component RNA vector system for producing foreign RNAs, peptides and proteins in
plants, comprises RNA virus-derived RNA replicons and helper viruses

45. Document ID: CA 2228730 A1

L9: Entry 45 of 52
File: DWPI
Jun 24, 1999

DERWENT-ACC-NO: 2000-161486
DERWENT-WEEK: 200015
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Antimicrobial styelin peptides isolated from Styela clava useful for preserving materials
vulnerable to microbial degradation and for protecting plants and animals against pathogenic
microbes

INVENTOR: LEE, I; LEHRER, R I ; ZHAO, C

PRIORITY-DATA: 1998US-0075026 (February 18, 1998), 1997US-0068802 (December 24, 1997), 1998US-0072885 (January 20, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CA 2228730 A1	June 24, 1999	E	035	C12N015/12

INT-CL (IPC): A01N 63/02; A23L 3/3544; A61K 7/00; A61K 38/17; A61L 2/16; C07K 14/435; C07K 16/18; C12N 15/12

IN: LEE, I, LEHRER, R I, ZHAO, C

L9: Entry 45 of 52
File: DWPI
Jun 24, 1999

DERWENT-ACC-NO: 2000-161486
DERWENT-WEEK: 200015

TITLE: Antimicrobial styelin peptides isolated from Styela clava useful for preserving materials
vulnerable to microbial degradation and for protecting plants and animals against pathogenic
microbes

ABTX:
USE - The compound (I) displays a wide range of antimicrobial activities and are therefore useful
for preserving materials susceptible to microbial degradation, for protecting plants against
bacterial infection and in the therapeutic and prophylactic protection of animals against
bacteria, fungi and viruses. (I) may also be used as standards in antimicrobial assays and as
affinity ligands for absorption of counterpart structures in microbes, including viruses.

46. Document ID: HU 200003485 A2, WO 9905319 A2, AU 9885765 A, EP 990047 A2, CN 1270598 A

L9: Entry 46 of 52
File: DWPI
Dec 28, 2000

DERWENT-ACC-NO: 1999-142963
DERWENT-WEEK: 200111
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: New tagged phosphoramidites and phosphonates for labelling nucleic acid - contain group
detectable by mass spectrometry, used to detect or quantify polymorphisms or specific RNA, e.g.
for genotyping and detecting mutations

INVENTOR: HOWBERT, J; MULLIGAN, J T ; TABONE, J C ; VAN NESS, J

PRIORITY-DATA: 1997US-0898564 (July 22, 1997), 1997US-0898180 (July 22, 1997), 1997US-0898501
(July 22, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
HU 200003485 A2	December 28, 2000	N/A	000	C07H021/00
WO 9905319 A2	February 4, 1999	E	263	C12Q001/68
AU 9885765 A	February 16, 1999	N/A	000	C12Q001/68
EP 990047 A2	April 5, 2000	E	000	C12Q001/68
CN 1270598 A	October 18, 2000	N/A	000	C07H021/00

INT-CL (IPC): C07H 21/00; C12Q 1/68

IN: HOWBERT, J, MULLIGAN, J T, TABONE, J C, VAN NESS, J

L9: Entry 46 of 52
File: DWPI
Dec 28, 2000

DERWENT-ACC-NO: 1999-142963
DERWENT-WEEK: 200111
COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: New tagged phosphoramidites and phosphonates for labelling nucleic acid - contain group
detectable by mass spectrometry, used to detect or quantify polymorphisms or specific RNA, e.g.
for genotyping and detecting mutations

ABTX:
USE - Probes and primers derived from (I), i.e. where X is replaced by a nucleic acid sequence,
are used as tags for use in any nucleic acid reaction that requires separation of molecules
according to size. Typical of many applications are in polymerase chain reactions, differential
display, RNA or dideoxy fingerprinting, ligase or nuclease-based assays etc., e.g. in diagnosis
(detecting mutations), forensic studies, detecting polymorphisms, genetic mapping (genotyping of
animals, plants, bacteria, viruses and fungi), in toxicology, animal breeding, analysis of gene
expression and sequencing by hybridisation.

47. Document ID: AU 9880300 A, WO 9856933 A1

L9: Entry 47 of 52
File: DWPI
Dec 30, 1998

DERWENT-ACC-NO: 1999-060334
DERWENT-WEEK: 199920

TITLE: New nucleic acid constructs encoding a modified plant viral protein - useful for provoking
an immune response in a mammal

INVENTOR: LOMONOSSOFF, G P; TAYLOR, K M

PRIORITY-DATA: 1997GB-0012282 (June 12, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE

LANGUAGE
PAGES
MAIN-IPC
AU 9880300 A
December 30, 1998
N/A
000
C12N015/82
WO 9856933 A1
December 17, 1998
E
047
C12N015/82

INT-CL (IPC): A61K 39/125; C07K 14/095; C12N 7/04; C12N 15/41; C12N 15/82

IN: LOMONOSSOFF, G P, TAYLOR, K M

L9: Entry 47 of 52
File: DWPI
Dec 30, 1998

DERWENT-ACC-NO: 1999-060334
DERWENT-WEEK: 199920

TITLE: New nucleic acid constructs encoding a modified plant viral protein - useful for provoking
an immune response in a mammal

ABTX:
Also claimed are: (1) a nucleic acid composition (I) containing sequences which encode other
components required for assembly and/or replication of viral particles. The peptide insert is
displayed on their surface; (2) a host cell containing (I), preferably a cow pea plant cell; (3)
a part of a plant containing modified viral particles; and (4) A population of modified plant
virus particles.

48. Document ID: EP 979243 A2, WO 9841535 A2, AU 9865098 A

L9: Entry 48 of 52
File: DWPI
Feb 16, 2000

DERWENT-ACC-NO: 1998-521161
DERWENT-WEEK: 200014

TITLE: New modified peptide(s) - obtained by substitution with an amino acid which is modifiable
by a reaction and replacing other amino acids which are not to be modified

INVENTOR: AJOULA, H S; CLARKE, D J

PRIORITY-DATA: 1997GB-0005519 (March 18, 1997)

PATENT-FAMILY:
PUB-NO
PUB-DATE
LANGUAGE
PAGES
MAIN-IPC
EP 979243 A2
February 16, 2000
E
000
C07K007/08
WO 9841535 A2
September 24, 1998
E
033
C07K000/00
AU 9865098 A
October 12, 1998
N/A
000
C07K001/00

INT-CL (IPC): A61K 38/10; A61K 38/17; C07K 0/00; C07K 1/00; C07K 7/08; C07K 14/435; G01N 33/68

IN: AJOULA, H S, CLARKE, D J

L9: Entry 48 of 52
File: DWPI
Feb 16, 2000

DERWENT-ACC-NO: 1998-521161
DERWENT-WEEK: 200014

TITLE: New modified peptide(s) - obtained by substitution with an amino acid which is modifiable
by a reaction and replacing other amino acids which are not to be modified

ABTX:
USE - The methods can be used for the modification of biologically active peptides such as
hormones, drugs, toxins and peptides which act on lipid bilayer membranes. The modified peptides
can be used e.g. in the body of an animal or plant or parts in order to affect the structure or
integrity or permeability of a foreign body such as a microorganism, parasite or virus present in
the body of the animal or plant or within the cells of the body of the animal or plant. They can
also be used in assays, purifications or sensors.

49. Document ID: WO 9602649 A1, AU 9528934 A, CZ 9600723 A3, EP 719336 A1, SK 9600342 A3, JP
09504961 W, BR 9506047 A, HU 75088 T, NZ 289170 A, CN 1134174 A, AU 697867 B, US 5958422 A

L9: Entry 49 of 52
File: DWPI
Feb 1, 1996

DERWENT-ACC-NO: 1996-105911
DERWENT-WEEK: 199948

TITLE: Plant virus assembled particles contg. foreign peptide insert - useful in vaccines, esp.
for protecting animals, including humans, from virus infections

INVENTOR: LOMONOSSOFF, G P

PRIORITY-DATA: 1994GB-0014118 (July 13, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9602649 A1	February 1, 1996	E	043	C12N015/40
AU 9528934 A	February 16, 1996	N/A	000	C12N015/40
CZ 9600723 A3	June 12, 1996	N/A	000	C12N015/40
EP 719336 A1	July 3, 1996	E	000	C12N015/40
SK 9600342 A3	July 3, 1996	N/A	000	C12N015/40
JP 09504961 W	May 20, 1997	N/A	038	C12N015/09
BR 9506047 A	August 5, 1997	N/A	000	C12N015/40
HU 75088 T	April 28, 1997	N/A	000	C12N015/40
NZ 289170 A	November 24, 1997	N/A	000	C12N007/01
CN 1134174 A	October 23, 1996	N/A	000	C12N015/40
AU 697867 B	October 22, 1998	N/A	000	C12N015/40
US 5958422 A	September 28, 1999	N/A	000	A61K039/12

INT-CL (IPC): A01H 1/00; A61K 39/00; A61K 39/12; C07H 21/04; C12N 5/00; C12N 5/10; C12N 7/00;
C12N 7/01; C12N 15/09; C12N 15/40; C12N 15/41; C12N 15/42; C12N 15/49; C12N 15/62; C12N 15/64

IN: LOMONOSSOFF, G P

L9: Entry 49 of 52

File: DWPI

Feb 1, 1996

DERWENT-ACC-NO: 1996-105911
DERWENT-WEEK: 199948

TITLE: Plant virus assembled particles contg. foreign peptide insert - useful in vaccines, esp.
for protecting animals, including humans, from virus infections

ABTX:
Assembled particles of a plant virus, contg. a foreign peptide insert (A) in the coat protein
region, are new. The site of the insert is free of direct sequence repeats flanking the insert,
and the virus is pref. Cowpea Mosaic Virus (CPMV). Also claimed are: (1) a fragment of CPMV coat
protein cDNA, contg. DNA encoding (A) or a site corresp. to an exposed surface of a coat protein,
free from direct repeats flanking the insert; (2) a vector contg. the fragment of (1) which is
esp. a full-length cDNA of CPMV M RNA contg. the foreign DNA insert; and (3) an RNA transcript of
(1) or (2), which is pref. capped.

ABEQ:
Assembled particles of a plant virus, contg. a foreign peptide insert (A) in the coat protein
region, are new. The site of the insert is free of direct sequence repeats flanking the insert,
and the virus is pref. Cowpea Mosaic Virus (CPMV). Also claimed are: (1) a fragment of CPMV coat
protein cDNA, contg. DNA encoding (A) or a site corresp. to an exposed surface of a coat protein,
free from direct repeats flanking the insert; (2) a vector contg. the fragment of (1) which is
esp. a full-length cDNA of CPMV M RNA contg. the foreign DNA insert; and (3) an RNA transcript of
(1) or (2), which is pref. capped.

TTX:
PLANT VIRUS ASSEMBLE PARTICLE CONTAIN FOREIGN PEPTIDE INSERT USEFUL VACCINE PROTECT ANIMAL HUMAN VIRUS INFECT

50. Document ID: ES 2155062 T3, WO 9319187 A1, AU 9226613 A, FI 9404315 A, NO 9403439 A, EP 632835
A1, JP 07504820 W, HU 70265 T, BR 9207103 A, AU 669130 B, US 5589625 A, RU 2125606 C1, HU 218356 B, EP
632835 B1, DE 69231711 E

L9: Entry 50 of 52

File: DWPI

May 1, 2001

DERWENT-ACC-NO: 1993-320753
DERWENT-WEEK: 200136

TITLE: Transgenic plants with multiple virus resistance - genetically engineered using DNA
encoding 2,5A synthetase

INVENTOR: KELVE, M; SAARMA, M ; TEERI, T ; TRUVE, E

PRIORITY-DATA: 1992EP-0104676 (March 18, 1992)

PATENT-FAMILY:
PUB-NO

PUB-DATE
LANGUAGE
PAGES
MAIN-IPC

ES 2155062 T3
May 1, 2001
N/A
000
C12N015/82

WO 9319187 A1
September 30, 1993
E
024
C12N015/82

AU 9226613 A
October 21, 1993
N/A
000
C12N015/82

FI 9404315 A
September 16, 1994
N/A
000
A01H000/00

NO 9403439 A
November 11, 1994
N/A
000
C12N015/82

EP 632835 A1
January 11, 1995
E
000
C12N015/82

JP 07504820 W
June 1, 1995
N/A
000
A01H005/00

HU 70265 T
September 28, 1995
N/A
000
C12N015/82

BR 9207103 A
December 19, 1995
N/A
000
C12N015/82

AU 669130 B
May 30, 1996
N/A
000
C12N015/54

US 5589625 A
December 31, 1996
N/A
017
A01H005/00

RU 2125606 C1
January 27, 1999
N/A
000
C12N015/82

HU 218356 B
August 28, 2000
N/A
000
C12N015/82

EP 632835 B1
February 28, 2001
E
000
C12N015/82

DE 69231711 E
April 5, 2001
N/A
000

C12N015/82

INT-CL (IPC): A01H 0/00; A01H 1/00; A01H 5/00; A01N 63/00; C12N 5/10; C12N 15/09; C12N 15/12; C12N 15/54; C12N 15/82

IN: KELVE, M, SAARMA, M, TEERI, T, TRUVE, E

L9: Entry 50 of 52

File: DWPI

May 1, 2001

DERWENT-ACC-NO: 1993-320753
DERWENT-WEEK: 200136

TITLE: Transgenic plants with multiple virus resistance - genetically engineered using DNA encoding 2,5A synthetase

AB TX:
A transgenic plant (I) displaying multiple virus resistance contains a genetically engineered DNA sequence encoding at least one polypeptide with 2,SA synthetase activity. The polypeptide is capable of activating an endonuclease causing degradation of viral RNA.

ABEQ:
A transgenic plant (I) displaying multiple virus resistance contains a genetically engineered DNA sequence encoding at least one polypeptide with 2,SA synthetase activity. The polypeptide is capable of activating an endonuclease causing degradation of viral RNA.

ABEQ:
A transgenic plant that utilizes the 2,5A oligoadenylate pathway and displays resistance to multiple plant viral taxonomic groups comprising a genetically engineered DNA sequence encoding at least one polypeptide having a 2,5A synthetase activity, wherein said polypeptide activates an endonuclease causing degradation of viral RNA.